The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

VOL. VI DETROIT, MICHIGAN, APRIL, 1907 No. 4

Original Articles

ABOUT SANATORIUM TREATMENT AND THE VALUE OF A STATE SANATORIUM IN THE COMBAT AGAINST TUBERCULOSIS.*

HENRY J. HARTZ, M. D.,
Detroit.

A sanatorium is an institution where the healing agencies of air, sunlight, and diet are put into active operation for the cure of tuberculosis. The inmates submit to discipline and constant medical supervision and receive such care as each individual case may demand in exercise, rest, and medication. The first sanatorium was erected in the middle of the last century, and today they exist in every civilized country. The construction of them has been numerous the last ten years, largely as the result of a world-wide crusade against tuberculosis. They form an important link in the system evolved by medical men, statesmen, and philanthropists for the relief, control, and, if possible, the eradication of the disease. The leaders in medicine found it necessary to ask the aid of state authorities and the people to combine against this insidious disease. since science and experience had declared that it was a communicable and preventable disease, and, in the early stages, curable. The system of restriction of tuberculosis, of which a sanatorium is an important link, consists in, first, the construction of private and public sanatoria in the country or in favorable regions, intended exclusively for incipient cases of tuberculosis, for curative and educational purposes; second, the provision of hospitals or homes for the acute and advanced cases, in or near cities, for purposes of relief and preventing infection of homes; third, free dispensaries in larger cities with staff of visiting nurses, to reach the poor consumptive in his home, to provide proper care, food, and raiment, and urge transfer to sanatorium or hospital; fourth, municipal and state control, compelling an efficient system of disinfection in farm, village, and city homes, where a tuberculous subject has died; fifth, education of the masses by leaflets, lectures, and through the press, the distribution of printed matter by municipalities to voters, workmen in factories and stores, and the formation of anti-tuberculosis societies for educating the people and aiding the poor consumptive.

The study of the tuberculosis problem, historically and as it affects society today, is interesting. Among other things, it was shown that, while the forces of civilization are slowly working for the extinction of tuberculosis, rather than its perpetuation, it still claims many victims

*Read before the Wayne County Medical Society, January 7, 1907.

in every class and age. No climate, no latitude, no occupation is exempt from its ravages. Favorable circumstances may retard its progress and mitigate its course, but there is no real safeguard against its onset anywhere. The death roll of all the wars of the nineteenth century is estimated at 14,000,000, and that of consumption in the same period and countries at 30,000,000. Painstaking researches at post-mortems reveal the astounding fact that seventy-five per cent of the human race have at some time during their life been infected. But it is also made clear that while the human race is prone to the disease, it does possess a resistance or a defense function, consisting of the formation of a tubercle, which holds the germs imprisoned in its center, and renders the invasion practically harmless. In addition the phagocytic properties of the blood serum and leucocytes lend their protecting influence, destroying the germs before they produce an infection. As it is, this protection is absent in many, fully 12 per cent falling victims to the disease, mostly in the prime of life. It is appalling to think that a delicate plant life, so readily destroyed by sunlight, having no motion of its own, could become so dangerous a foe to mankind. It is accounted for, partly by the fact that this delicate germ life is parasitic, that its nature was unknown until 1882, and that it had thousands of years to engraft itself unmolested. The erroneous view of the inheritance of tuberculosis made unnecessary any preventive procedure, and therefore the germs have established themselves in the deeper recesses of man and his friendly animals. It is properly designated a home disease, and a social malady, which has firmly rooted itself ever since the dawn of civilization.

Since the realization of the part played by the parasite in the production of the disease, there has sprung into existence, since 1888, a worldwide movement for its control and relief, the aim being to destroy the seed of the disease, found only in the sputum and other discharges of a tuberculous subject, and to increase the resistance of the body by more hygienic living, especially breathing of pure air. Steps were taken in 1889 in France by Prof. Bouardel to organize a national crusade. The Empress of Germany lent her powerful aid by forming a society with 8,000 members, which resulted in the building of 100 sanatoria. King Edward donated $1,000,000 for a public sanatorium, and declared that if the disease is preventable, why not prevent it. His illustrious mother, Queen Victoria, during her reign, had unknowingly, perhaps, put into operation a most successful campaign against tuberculosis, in which the death rate was reduced one-half in 40 years, by the legislative acts which provided for the construction of better homes, with more sunlight and better sanitary surroundings. The social misery was much relieved thereby, and the economic conditions, too, were improved, enabling the workmen to obtain better food, drink, and clothing. In consequence the people became more resistant against the disease. Those countries that deal with tuberculosis in an intelligent way, that include strict preventive methods, have recorded a reduction in the death rate from 20 to 40 per cent. during the last 20 years. For instance, in Sweden, Denmark, Germany, and England, while building sanatoria on the best chosen sites in the country, they also provided well-equipped consumption hospitals near large cities for advanced cases. This division becomes necessary, for a sanatorium that becomes filled with more or less advanced cases, for the most part bedridden and on their way to the grave, offers but little promise of a cure to the incipient case. The fruits of the campaign against

consumption have positively been gathered in Prussia, where the mortality rate from 1886 to the present is less by one-third. It remained the same the preceding ten years from 1876 to 1886. It is estimated that 20,000 lives have been saved in Prussia from 1886 to 1906. In Stockholm, where the advanced cases are segregated in hospitals and the end of their lives made comfortable, a reduction of 38 per cent in the death rate for the last 20 years is shown. In England there has been recorded a gradual reduction in the number of the dead from tuberculosis, largely due to the consumption hospitals, of which Brompton is a type which was established during the Victorian era. Such a hospital not only affords relief, but prevents infection to members of homes, especially the children. In France, Austria, Ireland and Scotland, where strict municipal measures, sanatoria and hospitals were not provided, the old mortality remains. New York City, with beds for 1,000 consumptives, and the most radical municipal regulation, claims to have lessened the death rate fully 30% in the last 20 years. In other cities, that have provided hospital accommodation, similar results are achieved. Chicago has 400 beds for its tuberculous, Boston 250, St. Louis 100, Cincinnati 100 and Cleveland 50.

It is to be hoped that in justice to the sadly afflicted, suitable provision may be made for consumptives in the advanced stage in every city and every county of the state of Michigan. It is the duty of the medical profession to stir the public conscience, to call attention to the ravages of tuberculosis, and to the effective methods of prevention and cure. Sanatoria aim to cure incipient cases, while hospitals serve advanced cases by making their end comfortable and preventing the spread of the disease. The isolation of advanced cases is as necessary for the protection of public health as the prevention of contamination of drinking water and milk by typhoid germs. Through knowledge has come responsibility and hope, and through both, action. These are the words uttered by Dr. Trudeau, the American pioneer in sanatorium treatment, and the first president of the National Association for the Study and Prevention of Tuberculosis. Afflicted with tuberculosis, he sought arrest of his disease in the Adirondack mountains in 1873. In 1884 he established the cottage system of sanatorium, which has grown to large proportions. His institution has records of many cures, some of the patients discharged 15 years ago being still well and active. Trudeau was influenced to seek restoration of health through the experience gained in the open air cure, by Dr. Bodington, of England, and Brehmer of Germany. Bodington published an essay in 1841 on "The cure of pulmonary consumption on principles, natural, rational and successful." He prescribed a generous diet, fresh air day and night, exercise, symptomatic treatment, daily watchfulness by a medical superintendent. He insisted that cold is never too intense for a consumptive, and that the air in the room should be as fresh as the outdoor air. He claimed to have succeeded in producing a number of positive cures. Attracted by Bodington's essay, Brehmer established in 1854 the sanatorium at Gerbendorf, and announced the following principles of open air treatment. At this time tuberculosis was regarded as an inherited disease, and therefore, Brehmer's conception of the cause of tuberculosis was incomplete, yet his system of treatment proved successful. He believed that, first, life spent in the open air cures and gives immunity to tuberculosis; second, necessity of complete freedom from any debilitating or disquieting influences to mind or body; third, hill climbing, under medical supervision, as an exercise

when condition of patients permitted; fourth, abundant dietary of milk, fatty foods, meats and vegetables; fifth, various hydro-therapeutic measures to stimulate the circulation and give tone to the vaso-motor system of nerves; sixth, constant and unremitting medical supervision.

At the time of his death, there had been established in Germany some 400 sanatoria for the rich, the middle class and for the poor class. Thus arose the idea of treating tuberculosis in sanatoria on hygienic and dietetic lines. It has for its object to build up the resisting forces of nature against attack by any germs, through the rational use of air, sunlight, food, rest, exercise, and medicinal agents. A sanatorium is two-thirds school and one-third hospital, superintended by a medical man of good personality, who can inspire the patients to fight for recovery of health. The mission of these institutions, aside from being curative and humanitarian, is also educational to the public in the prevention. The patient, once restored to health, is armed with a practical training to teach others in his community, and is possessed with knowledge how to care for himself against relapse. Sanatoria are training schools for students and medical men, in the recognition by physical examination of the early stages of the disease, before ulceration and coughing have set in. Thus they serve the triple purpose of prevention, education and treatment.

The medical profession of the state of Michigan, recognizing the value of such an institution, had petitioned the legislature for the last six years for an appropriation to erect and equip a state sanatorium. At the last session, the committee of the State Medical Society received the co-operation of the senate and house of representatives, through the personal assistance of Gov. Warner, $30,000 being appropriated for that purpose. An unpaid board of trustees was appointed, in accordance with the bill, to supervise the founding of the sanatorium. The site chosen was donated by the citizens of Howell, and consists of 190 acres; its location is near Howell, 1,100 feet high, with the requisite woodland, water supply, and porous soil. The state sanatorium is intended for that large dependent class, who are ill with beginning tuberculosis and often struggle for an existence at the same time. An universal charge of probably $4.00 will be made for each patient per week, which the patient, city or county, or charity organization may pay. The remaining sum necessary to defray the cost of maintenance, will be borne by the state. Only beginning cases will be received with limited lesions, who for the most part are able to take exercise, and can take the outdoor treatment. The sanatorium method of treatment is one of common sense. The aims in a sanatorium differ from those in a hospital, in that the patients are given an abundance of air and light, the best of food stuffs, regulated rest and exercise, and such medicines and care as their individual constitution demands. The daily routine is one of gentle discipline, each patient receiving attention from the doctor in charge. The regulations for conduct of patients consist of forty distinct rules, framed entirely for the best interests of all, aiming at physiological living and the prevention of the spread of the disease. Patients, upon entering the institution, are placed in the infirmary ward, and are given from one to three weeks' rest in bed, during which time their condition is ascertained. If the temperature is found to be below 99.5 degrees, and in absence of any tendency to hemorrhage or uncomfortable shortness of breath, exercise in a mild degree is allowed, which is at once restricted or countermanded, when temperature mounts higher than 99.5 degrees. During this

period rest out of doors, in a reclining chair, is ordered. They are required to spend from eight to ten hours in the open air daily. In winter they are protected from the cold by the use of appropriate wraps, hot water bags, and a reclining chair to keep the feet off the ground. Immediately, upon the appearance of pink or blood streaked sputum, pleurisy, or any other complication, the patient is transferred to the infirmary ward, there to remain until his condition again warrants his following the regular routine. With bed screened from draughts, the patient sleeps with windows open; should he experience any difficulty in keeping warm, double mattresses, hot water bottle, woolen leggings, or flannel sheets will usually render him comfortable. A person trained in food preparation is in charge, giving attention to quality and proper cooking, and to the detail of serving at proper temperature. The diet is modified, according to the individual needs, and generally given five times during the twenty-four hours, milk and eggs being given between meals. The diet should be liberal, but not forced, sufficient to replace the waste and build up the body, without embarrassing the functions of digestion and elimination. Exercise is much like a double-edged sword, during the fever it is forbidden; it becomes of great value with established convalescence, and then only under supervision of the physician. The heating facilities will permit of bathing in warm atmosphere. Upon rising, the patient takes at first a moderately cool sponge bath, followed with friction towel until the skin is red. Shower or needle baths are used for stimulating nutrition and increasing the resistance to taking cold. Patients retire at nine o'clock, and remain in bed, to rise at 6:30, allowing nine and a half hours for sleep. Personal hygiene is strictly insisted upon, the use of mouth washes and bathing, the use of tooth-brush before and after meals, frequent cleansing of hands and nails, removal of beards and mustaches. In the light of pathology and bacteriology, the hygienic and dietetic treatment of tuberculosis is valuable in assisting fibroid encapulation of the germs, by stimulating cell proliferation. It has but little, if any, effect upon the cheesy tubercle itself, it probably does not eradicate it, but aids in the production of a firm capsule around the diseased area. Rest is valuable in preventing extension of the inflammatory changes of the lung tissue around the tubercle, which, owing to its weakness, is susceptible to acute inflammation, and then frequently ensues the real process of consumption or mixed infection. The sanatorium treatment could be given at the home of the patient by any practitioner, but is attended with difficulty. A community of tuberculous individuals in the same stage of the disease, who have received an education in the general method of treatment, are an educational force to the new arrival, of great power, which can not be had in the home. It is a long and slow process of getting well and keeping well, and patients must be educated to realize the necessity for an entire change of environment, of vocation, and of continual, careful, attention for years to come, with some form of fresh air living. The sanatorium method may be carried out in detail by the physician in the home of the patient, provided the patient has sufficient determination. The home must be in a dry, healthy and airy place, free from carpets, curtains and dust, strict discipline of doctor and nurse is to be maintained, and suggestions of kind, but meddling friends refused. The patient by himself when everything is done, will miss the hopefulness, which comes from the companionship of those who are daily improving, and who are full of confidence. Obedience of the patient is necessary in

the matter of exposure to pure air, which should never be breathed a second time, its action is not only stimulating locally upon the tubercle of the lung, but general throughout the blood. The local effect is marked upon the cough, it becomes loose, the finer bronchial tubes become empty, and permit of freer aeration of the blood. Respiratory exercises aid in this oxidizing process, and should be encouraged when the temperature justifies their use. The dry and rasping cough of homes is absent in sanatorium life, in fact about 75 per cent of the cough of a consumptive is controlled by the will, all making the same effort, only that cough being permitted which brings up sputum. Perfect sanitation is necessary in the treatment of consumption, coupled with skilled alimentation, which is seldom obtainable in a home. A tuberculous subject with fever differs from one having other febrile disturbances, in that he is unwilling to assume the recumbent position, and often desires to work. It is likely that tuberculous toxines are falsely stimulating to the nerve centers, it is therefore difficult to make them rest in their home. In a sanatorium this is more readily enforced. Catarrhal affections are usually absent in a well conducted sanatorium, the purity of atmosphere excludes irritating substances, such as smoke, dust, and germs, and the respiratory passages are better nourished, as a result of better food and more hygienic living. In summing up the various factors, having direct bearing upon the cure of tuberculosis, and giving their value in terms of per cent, it is estimated that a contented mental attitude of the patient amounts to 20 per cent, pure air 20 per cent, food 20 per cent, medical supercision 30 per cent, and altitude (the preceeding factors being equal) 10 per cent. The fever of tuberculosis in sanatoriums is treated the same as in rheumatism, and in pneumonia, by absolute rest in a recumbent position. Experience in open air treatment shows that quiescence of the body and superabundance of oxygen are followed by improved appetite, assimilation, and gain in weight. It is during repose that oxygen is freely absorbed, especially when exposed to cool air, while the body is wrapped adequately to protect it from chill. Blood pressure, pulse rate, and temperature form a guide to the amount of exercise and rest. Exposure to winds, when well protected to prevent chilling, is not regarded as a harm; experience with patients in windowless rooms and balconies has proven its benefits. The wind sweeps away noxious emanations from body and breath and supplies new and fresh air, but exposure to a draught of a column of air traveling through small openings, is regarded as dangerous, striking, as it would, only parts of the body. While we have a specific cause for tuberculosis, there is as yet no specific cure. The method of treatment in sanatoria is the best, and based upon scientific principles of hygiene, and diet, in conjunction with remedial agents, such as Koch's lymph, guiacol, arsenic, and oil of eucalyptol, which, aside from the antiseptic action upon the digestive tract, tend to influence stimulation of the cells and so indirectly assist in the formation of the capsule around each tuberculous area. Instructions in sanatoria are given in such a way as to appeal to the selfish interest of the patient, especially as regards the disposal of his sputum; he is taught that by careless spitting, he may reinfect himself; neither poison yourself or others by your sputum, is the terse maxim. In consequence all the inmates watch each other and report any delinquents. He is taught the need of fresh air in the room, and he will object to anyone sharing it with him, on his return home. Another maxim reads: Live in the open air, and never rebreathe the same air, all the hours, of

all the days of all the years. The constant open air life is possible only in a few sanatoria that are located in the sunny region of New Mexico and have, at the same time, additional value of altitude, but the advantages thus gained are often counteracted by homesickness. High altitude is of more value to the young with undeveloped chest, the rarefied air compelling more frequent respiration, which increases the strength of the heart and the muscles of respiration and the nutrition of the whole body. The same effect, however, may be obtained in lower regions by enforced and systematic exercise. It cannot be denied that the dry air in high altitudes favors the healing of cavities by abstracting therefrom a certain degree of moisture, and is indicated in hopeful cases of mixed infection. The greatest value to the patient is the early recognition of tuberculosis, even before ulceration has set in, then he may recover with sanatorium methods, 75 times out of 100, in almost any climate.

It is an accepted fact that a tuberculosis subject should seek a cure in the climate where he intends to remain his lifetime. A cure obtained in a high altitude, demands continuance of residence there. It has been often witnessed that relapses occurred when the patient returned to live in a much lower altitude. The splendid results attained by the sanatoria in lower altitude, corroborate the estimate of the value of the factors in the cure of tuberculosis, namely, that medical supervisions as to rest and exercise and the begetting of a hopeful and contented state of mind are as essential as pure air and good food, which places altitude as a secondary consideration. The Massachusetts State Sanatorium, established in 1895, is located in Rutland, near Boston, at an altitude of 1,100 feet above sea level, with a capacity for 381 patients. The trustees of the sanatorium reported last November the result of treatment in that institution for one year. Of the incipient cases 69% were discharged with the disease arrested or apparently cured. Of all the cases treated during one year 37% were discharged as apparently cured.

Similar results are obtainable in the state of Michigan, provided that the proper equipment of a complete sanatorium is made. It is generally held among authorities that tuberculosis could be eradicated if the knowledge we now possess could be put in active operation. A committee was appointed by the State Medical Society to secure cooperation of all county medical societies throughout the state to work against tuberculosis, a movement promising effectiveness, since it is the family physician who is in position to make an early diagnosis, at a time the patient is curable.

Dr. J. N. McCormack, of Kentucky, in a series of free lectures on Preventable Diseases given all over the United States, said in relation to the tuberculosis problem of Michigan:

"You have fully 20,000 to 25,000 cases of consumption in Michigan today, and 2,389 deaths were reported from this disease last year. There was not a case of consumption in Michigan last year, or any other year, that was not due to the fact that the persons who had the disease got the germs of the disease into their system from some previous case. There is no other way to get it. Consumption is not inherited. Even if your father and mother died from consumption, you can, at the very worst, only inherit the kind of constitution, or soil, which makes you vulnerable to the disease. You can no more have consumption in your system without having received the seed of the disease from a previous case than you can raise corn out here on a rich Michigan farm without seed. If all the expectorated matter and other infected excretions from every

case of consumption now in Michigan should be collected and destroyed until all the cases now existing have either recovered or died, there need never be another case of consumption in this State, unless it be an imported one."

Every state in the union, and also the federal authorities, have adopted exterminating measures against tuberculosis on moral and economical grounds, and if persisted in will eventually fulfill the prophecy of the illustrious savant, Pasteur: "That it is in the power of man to cause all parasitic diseases to disappear from the earth."

Summary

Sanatoria are educational and curative institutions,

1. Where incipient cases of tuberculosis may be cured.

2. Where a tuberculous subject may be instructed how to keep well.

3. Where students and medical men may be instructed in the early recognition of the disease.

4. Where research may be carried on with remedies of approved value.

5. Where a practical object lesson may be demonstrated, which cities and counties may duplicate for the care of acute and advanced cases.

6. Where an object lesson may be learned by physicians and the people in the sanatorium methods to be applied to patients in their home.

7. Where poor and worthy tuberculous subjects may have a chance for their lives, through aid of the state. They form an important link in the scheme for the eradication of tuberculosis. consisting of the establishment of

8. Hospitals for diseases of the chest, or proper accommodation in the general hospitals for advanced and for acute cases are an absolute necessity. They protect the community, by removing the case in its most contagious period, and preventing it from acting as a further focus of contagion in the home.

9. Establishments of free dispensaries in cities with staff of visiting nurses for relief and prevention. The formation of anti-tuberculosis societies for educational purposes, through the press and lectures, and aiding financially the poor consumptive and his family.

10. State and municipal control with efficient system of disinfection and the passage of a bill by the legislature to include pulmonary tuberculosis in the list of communicable diseases.

Vaccination.—Dock believes that recent epidemics of smallpox show conclusively the need of more vaccination. He says that what is needed is not statutory compulsion, but an organized and scientific procedure that shall have the confidence and support of a large majority of the people and that shall have no weak spots in any part. There is nothing, he asserts, in the fundamental law of the land to prevent the passage of safe and efficient vaccination laws, which should aim at a widespread protection by vaccination and revaccination. The operation itself should be a matter of permanent record, and a certificate from an authorized official should be proof of the vaccination of each individual. The operators should be trained for their work, familiar with the vaccination laws, and bound to follow them. Dock would control the manufacture of vaccine by competent experts. He says that vaccination should be done at fixed times of the year when epidemic diseases are not most prevalent, in places appointed and equipped for the purpose; the individual should be examined after the operation at a time fixed by the regulations, or at once on suspicion of complication. He would permit private vaccination only under special conditions with revision of the result by a competent health officer.—*Am. Jour. Med. Sc.*, Feb., 1907.

SOME REMARKS CONCERNING THE PATHOLOGY AND OPERATIVE TREATMENT OF CHRONIC SUPPURATIVE OTITIS MEDIA*

R. BISHOP CANFIELD, M. D.,
Professor of Otolaryngology, University of Michigan,
Ann Arbor.

It shall be the purpose of this short paper to consider the pathological changes taking place in the temporal bone and neighborhood during the course of chronic suppurative middle ear disease, in order to point out the necessity of careful observation of such cases and the advisability of operative treatment of certain of them. Such changes affect not only the middle ear, but also the internal ear, the mastoid, the cranial cavity and the large venous channels of the dura.

The changes that involve the middle ear may be divided into

1. Those affecting the mucous membrane.

2. Those affecting the ossicles and tympanic walls.

The most important change in the mucous membrane is a general thickening, due to infiltration and formation of new blood vessels. The surface becomes infected by the discharge and covered with suppurating granulations, varying in size from the most minute to those large enough to fill the middle ear. Many of these become pedunculated and appear in the external canal as polyps. There is also a formation of new connective tissue which appears as thickenings on the walls of the tympanum or adhesions between the ossicles or between the ossicles and the walls.

The suppurative process is almost never confined to the mucous membrane, but early in the course of the disease spreads to the ossicles. These are affected in inverse ratio to the richness of their blood supply. Therefore the incus is attacked first. Bathed in pus, which flows down from the attic, either its body or its short process becomes carious, so that the ossicle is loosened. Next in order is the malleus, which as a rule loses its handle, if it does not undergo a more serious change. In this way one or more of the ossicles becomes dislocated or exfoliated and possibly appears in the discharge.

Within the tympanum the suppurative process generally spreads to the walls, with resulting destruction. A fortunate thing is that the external wall of the attic is generally the one to be affected first. Caries of a part of this wall allows the formation of the sinus between the attic and the external canal, which permits an imperfect escape of pus externally. Not uncommonly, however, the roof of the attic, that is, the floor of the middle cerebral fossa, is destroyed, the cranial cavity opened and the dura covered with pus.

When the chronicity of the disease is firmly established, that is, after the perforation of the tympanic membrane has persisted for a certain length of time, there takes place an epidermatization of the tympanum, more or less complete. This epidermis as a rule rests upon a necrotic base, which fact, together with the fact that it is continually covered with pus, causes it to macerate, desqua-

*Read before the Eleventh Councillor District Medical Society, Greenville, October 19, 1906.

mate, and to appear in the discharge as a peculiarly foul smelling material, known as cholesteatome.

Invasion of the labyrinth in suppurative cases is unfortunately more common than is generally supposed, and is found more frequently in those suppurations complicating scarlet fever, diptheria, measles and the grip. It occurs less frequently after typhoid, and in syphilis and tuberculosis. Extension takes place occasionally through the oval or round windows, or through the aqueductus vestibuli, but generally through some erosion of the external or posterior semicircular canal.

The amount of interference with hearing varies within the widest limits. Extensive disease of all tympanic structures with destruction of the ossicular chain, while it may, and often does, affect the hearing very materially, may take place with scarcely perceptible damage to the auditory function. On the other hand it is not unusual to find the hearing disastrously affected in cases where but moderate pathological change can be demonstrated clinically. The loss of hearing depends largely upon the location of the pathological process; thus an akylosis of the footplate of the stapes, or the moderate invasion of the labyrinthine capsule, may affect the hearing remarkably in an ear in which objective examination shows slight change. On the other hand I have demonstrated the destruction of the posterior semicircular canal and occupation of the labyrinthine vestibule by pus in the ear, by which the whisper had been heard. The amount of hearing preserved then is no criterion of the extent or character of the pathological change.

Inasmuch as in all cases of chronic middle-ear suppuration the antrum and mastoid are involved to a greater or less degree, it becomes proper to consider the changes taking place there also. The character of such changes depends upon the character of the mastoid, the character of the change in the tympanum, the duration of the disease, the adequacy of drainage, and the kind of treatment that has been carried out. For convenience, the chief changes in antrum and mastoid may be grouped as follows:

1. Hypertrophy of the membrane lining the antrum and mastoid cells, with its conversion into chronic granulation tissue.
2. Circumscribed or diffuse caries of the walls of the antrum and mastoid cells with or without sequestrum formation.
3. A proliferative osteitis.
4. Formation of cholesteatome.

These changes may take place singly, although it is a rule to find them all present. The proliferative osteitis attacks first these cells lying nearest the tympanum, i. e., those lying in the anterior mastoid wall in the neighborhood of the antrum. Next it attacks those lying superficially in the cortex. This fact is of the greatest clinical significance, for the sclerosis and eburnation build a wall of dense bone around the deeper structures, so that perforation externally becomes impossible. This sclerotic process progresses steadily so that it is not uncommon to find the mastoid completely sclerosed and as hard as ivory, all macroscopic evidence of cell structure being destroyed. This thickening and condensation of the bone does not affect the roof of the mastoid and antrum. In these areas the change mentioned second is the one generally seen, i. e., a circumscribed or diffuse caries, so that, with an extensive eburnation of the superficial mastoid cells, there is seen partial or complete destruction of the internal table.

The formation of cholesteatome in the mastoid is by direct extension of a similar process from the tympanum, so the

first parts of the mastoid to be involved are those lying next to the brain. This epidermis (cholesteatome) which has grown in from the external auditory canal to replace the mucous membrane of the tympanum, now grows backwards over the floor of the antrum to invest firmly its walls and those of the cells in the neighborhood. This tissue appears as a membrane, pearly white in color, and containing many of the elements of the true skin. It destroys the lining of the cells, and fastens itself tenaciously to the bone, grows into the most minute pneumatic spaces and forces its way into the microscopical openings of the Haversian systems in the pneumatic structure of the skull. It is sometimes found at a considerable distance from the original sources of the disease, either far upwards in the zygoma or backwards in the occipital bone. This epidermis, like epidermis on the surface of the body, desquamates, but bathed in pus and resting generally upon a necrotic base it desquamates more rapidly. The result is that there is formed in the antrum a mass of cholesteatome and pus. The detritus thus formed fills the antrum and makes its exit more or less freely into the tympanum and thence into the external auditory canal. It generally escapes less rapidly than it is formed. The result is that the mass collects in the antrum under some pressure. This pressure is sufficient to break down the walls of the antrum and the neighboring cells, so that the mastoid is converted into a cavity filled with a stinking mass. It sometimes happens in the presence of a moderate degree of infection that desquammation goes on slowly and in such a way as to form a true tumor, composed of layer upon layer of membrane very like an onion, and surrounded by a well-defined membrane.

This cholesteatome formation begins, as has been said, in the antrum, while the sclerosis begins in the more superficial parts of the mastoid. The result then, especially in the adult, is the formation of the dense wall of bone, slowly increasing in thickness, which effectually shuts in the mass of cholesteatome and pus in the depths. The pressure of the growing tumor mass in the antrum slowly destroys those walls of the antrum which are the thinnest, and which therefore exhibit the least resistance, i. e., the superior and posterior. This allows infection to enter the middle and posterior cerebral fossas, and exposes the patient to such complications as meningitis, brain abscess and thrombosis of the sigmoid sinus.

When extension takes place through the floor of the antrum, as it frequently does, it generally opens into the external, sometimes into the posterior semicircular canal and so enters the vestibule, from which, by way of the internal auditory meatus, pus may reach the base of the brain. Probably the most common point of perforation internally is through the posterior mastoid wall along the course of the sigmoid sinus. Such perforation permits the formation of a perisinuous abscess upon the dural wall of the sinus and invites thrombosis of the vessel and invasion of the blood stream, with subsequent pyemia.

I have mentioned such pathological changes occurring during the course of a chronic aural suppuration in order to emphasize the fact that most of them take place in every case, that all of them are present in many cases, and that all of them may occur without the exhibition of a single symptom on account of which attention is drawn to the condition.

In order to illustrate this statement, I wish chiefly to state the pathological findings of the following 27 cases of chronic middle ear suppuration recently operated upon and at present under observation:

Sex. M. *Age.* 15 yrs. *Duration.* 11 yrs. *Ear.* Left. *Cause.* Scarlet fever.

Symptoms. None except discharge.

Examination. Tympanic membrane and ossicles gone. Tympanum filled with cholesteatome. Adenoids.

Operative Findings. Marked sclerosis of entire mastoid except antrum. Sclerosis had been the cause of drawing the floor of the middle cerebral fossa down below its normal level, the sigmoid sinus forwards to a point immediately behind the external auditory canal. Cholesteatome filled every bit of bone not sclerosed. This case had run a course of 11 years without a single symptom of involvement of the mastoid. The very extensive sclerosis had resulted in making the cortex nearly 1 inch thick, while the inner table was paper thin, so that the purulent mass was separated from the dura by a layer of bone the thickness of a sheet of paper. Adenoid operation.

Result. Trace of moisture in tympanum.

Hearing before Op. Loud con. voice at 1 ft.

Hearing after Op. Loud con. voice 6 ft.

CASE No. 2.

Sex. M. *Age.* 15 yrs. *Duration.* 4 yrs. *Ear.* Right. *Cause.* Adenoids.

Symptoms. None except discharge.

Examination. Perforation in Sharpnell's membrane, through which pus and cholesteatome come from attic. Adenoids.

Operative Findings. Marked sclerosis of mastoid, while inner table remains paper thin. Cholesteatome in antrum and in small cells in the neighborhood of the semicircular canals. Incus gone. Malleus present but carious. Adenoid operation.

Result. Trace of moisture at tympanic end of Eustach. tube.

Hearing before Op. Shout.

Tearing after Op. Loud con. voice 2 ft.

CASE No. 3.

Sex. F. *Age.* 22 yrs. *Duration.* Effect of disease *Cause.* Measles.

Symptoms. None except discharge.

Examination. Tympanic membrane lacking in greater part. Small amount of cholesteatome and pus.

Operative Findings. Middle cerebral fossa floor very low. Sigmoid sinus immediately behind canal. Antrum filled with cholesteatome and pus. Two small openings were found through the dura into the cerebellum. The layers of the cerebellum were separated slightly in order to be sure that this tissue was indeed cerebellum. Cerebellar tissue apparently normal.

Result. Cure.

Hearing before Op. Loud con. voice. 1 ft.

Hearing after Op. Loud con. voice. 6 ft.

CASE No. 4.

Sex. F. *Age.* 22 yrs. *Duration.* Effect of disease 22 yrs. ago. *Ear.* R. *Cause.* Head colds.

Symptoms. None until six months ago when patient began to have dizzy attacks, great amount of pain which would last several hours. Slight mastoid tenderness.

Examination. Effect of previous discharge. No discharge at present. Scar and perforation of tympanic membrane, with adhesions.

Operative Findings. Considerable superficial sclerosis. Small amount of granulations in antrum. Sequestrum size of a small bean lying free in attic. This case was especially interesting because of the fact that marked symptoms of the sclerotic mastoiditis occurred in the patient, who was hysterical. The effect of O. M. S. with dizziness and sequestrum formation in attic were sufficient reasons for operation.

Result. Cure.

Hearing before Op. Loud con. voice at ear.

Hearing after Op. Loud con. voice 10 ft.

CASE No. 5.

Sex. M. *Age.* 35 yrs. *Duration* 4 months. *Ear.* Left. *Cause.* Blow.

Symptoms. Queer sensations in head. Some dizziness.

Examination. Complete atresia of the external auditory canal.

Operative Findings. Fracture of posterior canal wall. Antrum and tympanum filled with detritus. No ossicles.

Result. Cure.

Hearing before Op. Shout.

Hearing after Op. 10/35.

CASE No. 6.

Sex. F. *Age.* 26 yrs. *Duration.* 18 mos. *Ear.* Left. *Cause.* La Grippe.

Symptoms. Headache right occipital region. Discharge.

Examination. Pus in ear. Previous mastoid operation.

Operative Findings. Pus and granulations in antrum. Area of pachymeningitis size of a hazel nut and ¼ inch thick.

Result. Cure.

Hearing before Op. Whisper at ear.

Hearing after Op. Same.

CASE No. 7 AND 8.

Sex. M. *Age.* 5 yrs. *Duration.* 2 yrs. *Ear.* Both. *Cause.* Adenoids.

Symptoms. None except discharge, until swelling five days ago.

Examination. Cholesteatome in both ears. Slight facial paralysis (R). Large subperiosteal abscess. Adenoids.

Operative Findings. Left. Large sub. periost. abscess filled with stinking pus and cholesteatome. Small area of pachymeningitis over mastoid roof. Perf. into mid. and posterior cerebral fossa. Perf. into articulation of the jaw. This case is another example of the extent to which a chronic mastoiditis may go without causing symptoms. Here the jaw had been opened without causing the patient any discomfort. The slight facial paralysis of the opposite side (6 weeks) is evidence of a serious mastoid condition there also, with involvement of the facial nerve. Adenoid operation.

Result. Cure. Cure of facial paralysis.

Hearing before Op. Shout.

Hearing after Op. 10/35.

Operative Findings. Right. The mastoid cortex was considerably sclerosed. The deeper mastoid cells and antrum were filled with a well defined cholesteatoma, with clearly defined wall and limiting membrane. The typical radical mastoid was performed by removing the entire mastoid cortex, the outer wall of the attic, and the posterior wall of the external auditory canal. All pneumatic structure was obliterated. The tip and the posterior root of the zygoma were removed. While obliterating the infratympanic space the face twitched. Minute cells containing cholesteatome were followed along the course of the facial nerve as far as it emergence from the internal ear. So far in fact that a small depression was left in the wall just above the point of emergence.

Result. Cure.

Hearing before Op. Shout.

Hearing after Op. 10/35.

CASE No. 9.

Sex. F. *Age.* 24 yrs. *Duration.* 17 yrs. *Ear.* Right. *Cause.* Measles.

Symptoms. Headache. Nearly complete facial paralysis.

Examination. Destruction of tympanic membrane. Small amount of cholesteatome and pus.

Operative Findings. First operation, pus and granulations in attic. Facial nerve covered with granulations. Antrum walled off from rest of mastoid by ivory-like bone. Second operation, because of poor healing. Wall of bone broken through and mastoid found to be filled with cholesteatome and pus which lay upon large area of dura of cerebrum and cerebellum. In this case the sclerosis had walled off from the outside world the greater part of the disease process. Unable to perforate externally, the increasing tumor mass in the mastoid had broken through the superior and posterior antrum walls into the middle and posterior cerebral fossas.

Result. Almost complete recovery from facial paralysis. Moderate general improvement.

Hearing before Op. Loud con. voice.

Hearing after Op. Loud con. voice.

CASE No. 10 AND 11.

Sex. F. *Age.* 9 yrs. *Duration.* 5 yrs. *Ear.* Both. *Cause.* Measles.

Symptoms. None except discharge until 2 weeks ago when swelling over (P) mastoid with fever and evidence of being sick.

Examination. (R) canal occluded. Large postaural swelling extending to cheek. Cholesteatome in canal. (L) tympanic membrane gone. Tympanum filled with cholesteatome. Patient evidently very ill. Temp. 103. Pulse 110, very weak and thready. Sepsis. Adenoids.

Operative Findings. Right mastoid cortex paper thin with five perforations externally. Large postaural swelling ext. subperiosteal abscess

filled with stinking cholesteatome. Mastoid and antrum filled with cholesteatome. Two perforations into middle cerebral fossa. Large amount of pus lying upon the sigmoid sinus. Posterior semicircular canal destroyed and laby. vestibule filled with pus.

Left (2 mos. later). Cholesteatome filled mastoid and antrum. Inner table at all points very thin. Cholesteatome extends over cerebellum. This case demonstrates well the extent of pathological change that may take place in mastoid without causing symptoms. This patient had had a discharge for 5 years with extensive involvement of mastoid and internal ear without being at all sick. The perforations through the floor of the middle cerebral fossa, the destruction of the posterior semicircular canal with invasion of the labyrinth must have been present for a considerable length of time. It required only a head cold or attack of grip to bring out what might well be a fatal acute exacerbation. Adenoid operation.

Result. Cure, in both cases.

Hearing before Op. Shout; both.

Hearing after Op. 30/35; both.

CASE NO. 12 AND 13.

Sex. M. *Age.* 15 yrs. *Duration.* 14 yrs. *Ear.* Both.

Cause. Adenoids.

Symptoms. None except discharge.

Examination. Both external canals filled with pus, cholesteatome and polyps. Adenoids.

Operative Findings. (Left.) Cortex very thin. Mastoid cavity filled with a tumor mass 1"x ¾"x½" having a well defined membrane and extending high up and far back along the superior petrosal sinus. Two openings into the middle cerebral fossa with large epidural abscesses. Perisinuous abscess ¾" long. Posterior semicircular canal destroyed and laby. vestibule filled with pus.

(Right) 17 days later. Same cholesteatomatous condition as on left. More superficial chlerosis and cholesteatome deeper. Vestibule opened by partial destruction of posterior semicircular canal.

Result. Cure in both.

Hearing before Op. Shout in both.

Hearing after Op. 10/35 in both.

CASE NO. 14.

Sex. F. *Age.* 13 yrs. *Duration.* 6 yrs. *Ear.* Left. *Cause.* Scarlet Fever.

Symptoms. None except discharge.

Examination. Adenoids. Pus and cholesteatome. Tympanic membrane replaced by scar. Sinus into antrum.

Operative findings. Marked sclerosis. Pus and cholesteatome in antrum. Incus carious.

Result. Cure.

Hearing before op. Loud con. voice.

Hearing after op. Loud con. voice.

CASE NO. 15.

Sex. F. *Age.* 34 yrs. *Duration.* 31 yrs. *Ear.* Right. *Cause.* Scarlet fever.

Symptoms. Discharge. Pain in side of head.

Examination. Retraction, scar in tympanic membrane. Tenderness over antrum.

Operative Findings. Bleeding bone throughout. Moderate sclerosis.

Result. Cure.

Hearing before Op. Loud con. voice.

Hearing after Op. Loud con. voice.

CASE NO. 16.

Sex. F. *Age.* 18 yrs. *Duration.* 13 yrs. *Ear.* Both.

..Cause. Measles.

Symptoms. None except discharge.

Examination. L. pus and cholesteatome. R. pus and cholesteatome. Great destruction of M. T. Adenoids.

Operative Findings. Sclerosis. Chol. in antrum. Malleus carious. Post. ½ of hor. semicircular canal and all of posterior semicircular canal gone. Adenoid operation.

Result. Cure.

Hearing before Op. 6/21.

Hearing after Op. 6/21.

CASE NOS. 17 AND 18.

Sex. M. *Age.* 10 yrs. *Duration.* 1 yr. *Ear.* Both.

Cause. Measles.

Symptoms. None except discharge.

Examination. Adenoids. (Both) pus, cholesteatome and polyps.

Operative Findings. Left, much cholesteatome throughout.

Result. Cure.

Hearing before Op. Loud con. voice.

Hearing after Op. 15/35.

Right. Cholesteatome, pus, and adenoid operation.

Result. Cure.

Hearing before Op. Loud con. voice.

Hearing after Op. 15/35.

Case No. 19.

Sex. M. *Age.* 23 yrs. *Duration.* 17 yrs. *Ear.* Right. *Cause.* ——

Symptoms. None except discharge.

Examination. Tympanic membrane gone. Pus and cholesteatome.

Operative Findings. Sclerosis, cholesteatome in depths.

Result. Cure.

Hearing before Op. Loud con. voice.

Hearing after Op. Loud con. voice.

Case No. 20.

Sex. F. *Age.* 12 yrs. *Duration.* 10 yrs. *Ear.* Left. *Cause.* ——

Symptoms. None except odor and discharge.

Examination. Foul pus and cholesteatome. Adenoids.

Adenoid operation.

Result. Cure.

Hearing before Op. Loud con. voice.

Hearing after Op. Loud con. voice.

Operative Findings. Large amount cholesteatome.

Case No. 21.

Sex. M. *Age.* 14 yrs. *Duration.* 10 yrs. *Ear.* Right. *Cause.* ——

Symptoms. None except odor and discharge.

Examination. Large amount of pus and cholesteatome.

Operative Findings. Left. Foul cholesteatome Pol. Large amount of cholesteatome. Adenoid operation.

Result. Cure.

Hearing before Op. Loud con. voice.

Hearing after Op. 5/21.

Case No. 22.

Sex. M. *Age.* 22 yrs. *Duration.* 17 yrs. *Ear.* Right. *Cause.* Measles.

Symptoms. For two months headache, dizziness and staggering, vomiting.

Examination. Sits head bent to left, not interested. No pain. Answers slowly. Vertigo. Romberg. Staggers to right.

Operative Findings. Foul cholesteatome throughout mastoid which is of large size, perforation through horizontal semicircular canal. ⅛″ in diameter. Vestibule filled with pus.

Result. Cure.

Hearing before Op. Shout.

Hearing after Op. Loud con. voice.

Case No. 23.

Sex. F. *Age.* 39 yrs. *Duration.* 19 yrs. *Ear.* Right. *Cause.* ——

Symptoms. Headache, anemia. Discharge.

Examination. Scar, pus, cholesteatome.

Operative Findings. Complete sclerosis. Cholesteatome in antrum and small cells of neighborhood.

Result. Cure.

Hearing before Op. Loud con. voice.

Hearing after Op. Loud con. voice.

Case No. 24.

Sex. F. *Age.* 17 yrs. *Duration.* 12 yrs. *Ear.* Left. *Cause.* Adenoids.

Symptoms. Two days sick. Headache, fever.

Examination. Cholesteatome, pus. Adenoids.

Operative Findings. Cholesteatome, pus, moderate sclerosis superficially.

Result. Cure.

Hearing before Op. 1/35.

Hearing after Op. 10/25.

Case No. 25.

Sex. F. *Age.* 43 yrs. *Duration.* 37 yrs. *Ear.* Left. *Cause.* ——

Symptoms. Headache, dizziness. Occasional unconsciousness.

Examination. Pus and cholesteatome.

Operative Findings. Complete sclerosis of greater part of mastoid. Bleeding bone with moderate amount of cholesteatome in the depths.

Perforation 3/16" in diameter through the promomtory into the cochlea.

Result. Cure.

Hearing before Op. None.

Hearing after Op. 15/35.

CASE No. 26.

Sex. F. *Age.* 36 yrs. *Duration.* 27 yrs. *Ear.* Left. *Cause.* Scarlet fever.

Symptoms. Hysteria. Previous attack of sympt. characteristic of meningeal irritation.

Examination. Great destruction of tympanic membrane. Pus and cholesteatome.

Operative Findings. Moderate sclerosis superficially. Cholesteatome, dura thickened over the mastoid roof.

Result. Cure.

Hearing before Op. 3/35.

Hearing after Op. 15/35.

CASE No. 27.

Sex. F. *Age.* 8 yrs. *Duration.* 7 yrs. *Ear.* Left. *Cause.* Scarlet fever.

Symptoms. None at present. Partial facial paralysis.

Examination. Pus and cholesteatome. Adenoids.

Operative Findings. Moderate amount of pus and cholesteatome. Facial nerve found uncovered. Adenoid operation.

Result. Cure.

Hearing before Op. Loud con. voice.

Hearing after Op. 10/35.

In considering the cases in this series, I wish to call attention to the fact that sclerosis was present in fourteen cases, cholesteatome in twenty-one, that the jaw had been entered in one, that perforation had taken place in ten, that the semicircular canal had been penetrated in three, that the cochlea had been penetrated in one, that the Dura had been uncovered in seven, that meningitis was present in two, that adenoids were present in twenty, and that the diseases of childhood were etiological factors in twenty cases, that is, those cases in which adenoids were present.

When taking up the operative treatment of chronic middle ear suppuration, I shall consider those cases only in which all palliative measures have failed to cure the discharge. As sufficient indication for operative interferences I consider the presence of a chronic purulent discharge, whether accompanied by symptoms or not, which has persisted for a period of months or years, resisting all non-operative measures, and occurring with or without odor or cholesteatome. Should symptoms be present, operation becomes the more imperative, whether the symptoms point directly toward increasing gravity of the pathological condition or whether they are of the indefinite character that to the mind of the accurate observer point with a degree of probability to involvement of the cerebral tissues. In this connection such symptoms as headache, occasional dizziness, or nausea and vomiting and suddenly increasing deafness are of the greatest significance.

Due to a misconception of the character of pathological changes taking place and the nature of the operation necessary for their correction, successful operative treatment of chronic suppurative middle ear disease is of comparatively recent origin. The typical mastoid operation suitable for the relief of the acute condition consists in removing all pneumatic structure of mastoid and posterior root of zygoma, establishing free communication with the middle ear and in discovering and relieving cerebral complications. The after-treatment is to compel the wound cavity to fill with healthy granulations. In the chronic cases this method of operating, no matter how skilfully it is carried out rarely, or practically never, results in permanent cure. The reasons are easy to understand.

In chronic cases the disease is not lim-

ited to areas that can be reached by this method of operating. The chronicity of the disease has been established in the first place by disease of the attic of the middle ear with caries of its walls. No matter how thoroughly the ordinary mastoid operation is performed, this area of bone caries can not be reached. It is necessary in all chronic cases thoroughly to expose this area by removing the external wall of the attic.

The second great reason why the operation satisfactory in the acute condition is not successful in the chronic case lies in the fact that in practically all chronic cases the pathological process has attacked even the most minute pneumatic structures so that it is impossible to reach and completely to eradicate all diseased areas in such a way that healthy granulations may form permanently. Especially is this true in cholesteatomatous cases. This epidrmis replaces the normal lining of every cell that it invades, so that no matter how great diligence is exercised at the time of operation, there still remain areas of desquammating epidermis which sooner or later infects and destroys the healthiest granulation tissue.

Therefore, in order to cure the discharge, to prevent cerebral complications, and to improve hearing, it is necessary (1) to expose all macroscopic areas of disease; (2) to prevent the formation of granulation tissue and of cholesteatome upon the surface of the wound cavity. Without going into the technique of the operation, this is best accomplished by the so-called Radical Mastoid Operation, which has for its object the conversion of the mastoid, antrum, middle ear and external auditory canal into one cavity with smooth walls. Such a cavity is secured after the typical mastoid operation has been performed by removing the external wall of the attic and the posterior wall of the external auditory canal. Careful attention is paid to the complete obliteration of all pneumatic cells of the mastoid, including those in the immediate neighborhood of the semi-circular and Fallopian canals, which are plainly exposed. The floor of the middle cerebral fossa is carefully inspected and as much of it as is suspicious is removed, the tympanic orifice of the eustachian tube is cleaned of all detritus and sealed, the lateral sinus is inspected, and finally the walls of the cavity are smoothed off so that no irregularity or overhang remains. A plastic operation is then done by which the soft tissues of the posterior wall of the external auditory canal are utilized to form a flap to aid in the epidermization of the wound cavity. Finally the entire cavity is covered with Thiersch skin grafts taken from the patient's thigh and the initial incision is sutured for primary union. The after-treatment is then carried out through the external auditory canal.

The final result of such an operation then offers a cavity lined by epidermis, composed of mastoid, middle ear, and canal, and is invisible to the most critical inspection. This allows at all times free inspection of the entire field of operation through the external auditory canal, makes the patient safe from further danger of cerebral involvement and cures the purulent discharge without interfering with whatever degree of hearing may have escaped the ravages of the suppurative process.

The patient may generally be promised that no bad effect upon his hearing will result from such an operation, but that on the contrary, some improvement may be expected. While there are certain cases in which many years of suppuration and extensive change in ear and mastoid have left the patient with a surprisingly good hearing, in the great majority of cases the hearing for the conversational voice is not acute. In the first class it sometimes happens that

hearing is not so acute after operation as it was before. This class is, however, very small, so that this fact must be disregarded in advising operation for the relief of a condition so serious as the one under consideration.

PHARMACOPEIA PRECOX*

F. S. SMITH, M. D.,
Saginaw.

Modern therapy has to a large extent weeded out the wonderfully complex mixtures once in vogue, and a galenical preparation with a dozen ingredients is now a pharmaceutical curiosity. Notwithstanding the great improvement in the standing of general medicine, nearly all that can be strictly classed as scientific in the practical treatment of disease is confined to the surgical branch of medicine. Diagnostic methods have been perfected and modern knowledge has thrown much light on pathological processes, but when we come to apply the remedy there is the rub. Materia medica is essentially an elementary branch of medical knowledge, and is very dry and uninteresting as a study, and unless one acquires his information along this line early in his career, he is very apt to get along without any profound insight into the subject. The ignorance of the profession in this regard is what makes it such an easy mark for the patent medicine man.

To be a fair therapeutist requires at least a general knowledge of materia medica. One should be acquainted with his tools. An extreme pessimism in therapeutics I believe to be a misfortune, as many things can actually be done with medicine, although it must be acknowledged that the remedies which are to be depended upon for certain results when we need them can almost be counted on one's fingers and toes; but if we know fully the capabilities of this small number, we can be very useful persons in time of need. The Council of the American Medical Association is trying to disseminate this class of information among active practitioners at the present time. The United States Pharmacopoeia and the National Formulary are compiled by some of the best men in the medical and pharmaceutical line, all of national and many of world-wide reputation. Their interest in the work is entirely professional and scientific. The information and formulas given are up-to-date, accurate and authoritative, more so since the passage of the new food and drugs act than ever before. The line of preparations given is varied enough to suit the most versatile prescriber, and the products as elegant as any proprietary house can offer, and you know what you are getting, and can get what you want if you specify U. S. P. The druggist who fails to take notice of these letters will get himself into trouble under the new food and drugs act.

Of course, in these works, fiction has been eliminated as far as possible. They merely describe the physical properties,

*Read before the Eighth Councilor District Medical Society, December 4, 1906.

prescribe formulas, and give average doses of the various articles listed therein. The therapeutic value of the remedies must be learned elsewhere, and this is the point where most of the profession fall down. Nothing is said about what these things are good for. There is no moonshine, no apt alliteration, they do not tell what wonderful compounds they are, the compilers do not hold up a symptom complex and say prescribe Jones' Bromides. You have to do your own thinking, and draw your own conclusions. This appears to be an onerous business for many of the profession, and they go about the task grudgingly, and here is where the pharmacopoeia precox comes in.

By pharmacopoeia precox I mean the quack literature of the day, which is sent gratis with more or less regularity to every practitioner whose address the publishers can acquire, and in which is heralded a lot of nondescript proprietaries, which it is claimed will do anything from growing hair on a brass monkey to realizing the fondest hope of the late Browne Sequard when in his dotage. We find such things as a digestive ferment, remedies for ovarian blight and presenility, wonderful, anti-morbific, and anti-purulent preparations, that correct all depraved conditions. They are powerful, but harmless, and where there is a dyscrasia of the secretions, or tissue disintegration exists, these wonderful remedies should be used. By the same gratuitous authority, we are told of cod-liver oil preparation, with the offensive grease removed, because it deranges the stomach, and hinders digestion. It contains all the vitalizing properties of cod-liver oil, without the grease, bad taste and odor that have done so much to injure the reputation of cod-liver oil.

These preparations differ very little from those that are offered to the public direct from the start, without the mediation of the physician. They usually contain a slightly higher percentage of alcohol, and other stimulants, and are marketed at a distinctly higher price; otherwise they are much the same, and it is the aim and ambition of every proprietor to obtain a public demand for his wares at the expense of and through the mediation of the physician, although if you point your finger at one of these fellows, he shouts "ethical," without saying a word.

One strongly alcoholic preparation is lauded to normalize nerve tension during labor, and we are asked to prescribe a high priced preparation of Glauber salts, because of its wonderful eliminative qualities. These preparations are often marketed by people without any knowledge of medicine whatever. One quite successful medical specialty that I know of, was backed by a pair of Chicago gamblers.

Good authority states that over 90 per cent of these proprietaries are marketed by people who have no other place of business than an office from which to mail their literature, the manufacture of the goods being contracted for where it can be done the cheapest. Exploitation along this line was for some time confined to specialty houses, who pushed two or three articles with imposing names, to which were ascribed catching formulas. These were never working formulas, and seldom went farther than the label. So great was their success in working the profession and so profitable was the venture, that at last many of the more reputable pharmaceutical houses were induced by the greed for gold to try to take a fall out of the doctors, and at the present time there are very few such firms who do not have several trade-mark specialties with which to work the profession. I am quite anxious to see how the food and drugs act of 1906 will effect this class of preparations, most of which are clearly misbranded under the act, and unless

the proprietors have a change of heart before 1907, a good many medical men, who have been entirely innocent of any knowledge as to what they have been giving their patients, may be able to see what they have been doing to themselves by prescribing prescription patents. It is labels and literature for the M. D. and "Vis medicatrix naturae" for the patient.

The preparations of the pharmacopoeia precox are not only heralded in the quack literature of the day, but special missionaries are sent around to interview the M. D. and do detail work, as they call it, and it is really wonderful to observe the effrontery of these people. One of these fellows, whose knowledge of medicine was acquired in a Sheldon School of Salesmanship, will walk into the office of an M. D. and make the most outrageous, improbable and impossible claims for his stuff. He will quote a formula of common everyday drugs, whose properties anyone knows, or should know, they dress them up in their Latin names, selecting the longest and most sonorous they can find, and reel off a lot of fairy tales about them that would make Munchausen green with envy, and the funny thing about it is, the profession takes it for Gospel truth. Like a Salvation army convert, looking for light, they embrace the faith on sight, and the next patient that comes in, gets Dadd's Pills or Neurilla, or a Compound of Sambucus Canadensis or taraxacum Dens Lionis that is going to equalize the circulation and produce a calm neurile equilibrium.

There seems to be a natural leaning towards the mysterious, the inscrutable, The Hindoo, when things go crosswise, tries to propitiate the offended gods, and does not hesitate to sacrifice his offspring to the crocodiles of the Ganges. If this does not suffice, he will even part with his mother-in-law, or his wife, in order to get relief from his troubles; the devout Christian, when trouble assails, and he gets beyond his mental depth, goes to the unknown and the unknowable, and relieves himself in prayer. He throws his burden on the Lord. The up-to-date medical man, who has spent four or five thousand dollars and as many years' time to perfect his knowledge of anatomy, physiology, pathology, materia medica and therapetics, who has dipped into microscopic analysis and finished himself in bacteriology—what does he do when he gets off his feet? He passes all of this up and falls back on the patent medicine man, and who is he? Quite often the butcher, or brewer, or baker, or candle-stick-maker, who has had a few dollars to put into the graft, for what he can make out of it. In a late issue of the *Journal of the American Medical Association,* I noticed this: "Can we blame the layman for using nostrums simply because they are advertised, when there are physicians, who for the same reason, prescribe concoctions that are just as quackish and just as useless? And can editors of medical journals consistently find fault with newspapers for carrying advertisements of fraudulent patent medicines, when they themselves admit to their pages advertisements of nostrums that are no less fraudulent and of no more value?" The late Dr. Squibb once said, in speaking on this subject, that there was one thing in favor of prescribing patent medicines, that it took no thought and left so much more time for the higher reaches of the profession.

I would make a plea for a more rational therapy, for more thoughtful attention to the cases that come to us; instead of handing the patient a gold brick, in the shape of an order for a patent medicine for his dollar, let us give him the attention he is honestly entitled to. If we want the support and respect of the community, I maintain that we must start with a reasonably

decent opinion of ourselves, and I do not believe that any man, who habitually prescribes patent medicine, can have a very high estimation of himself, therapeutically speaking. It is not quite so risky as porch climbing, but is quite as much "infra dig." If, instead of having our ideas about therapeutics hatched in the incubator of the proprietary man, and dished up to us in the gratuitous journals, we dig them out for ourselves, or take them from some respectable and reputable medical authority, I believe we will think more of ourselves, and be more esteemed by the public.

SOME ASPECTS OF RENAL SURGERY AND NEPHRITIS*

HAL C. WYMAN, M. D.,
Professor of Surgery, Michigan College of Medicine and Surgery, Detroit.

It is well known that surgery has accomplished a great deal in the successful treatment of nephritis, and it is difficult to explain the good results which commonly follow operations upon the kidney of nephritic persons who are edematous and water-logged. Some surgeons have sought to explain the satisfactory results by asuming that the satisfactory results by assuming that the advised by Edebohls, leads to the formation of a new system of renal blood vessels which carried on the circulation through the kidney without transudation of albumen and sloughing of the renal epithelium. Others have sought to explain the pleasing results of operations upon the kidney of albuminous patients by assuming that the splitting of the kidney capsule or its puncture or scarification relieved the internal congestion on which the albuminous urine depends. Then there are operations for the relief of movable kidney and of floating kidney, accidentally discovered in cases of Bright's disease, which have been operated upon by stitching the kidney into its normal position and the patients have subsequently recovered sound health. We must not dispute these results, because all surgeons who have done any work on the kidney of nephritic persons testify to these facts occasionally.

It is possible that we have had a mistaken notion of the location of the normal kidney and of the mechanics of its circulation and nutrition. Its activity is supposed to depend upon the power of the heart in driving the blood through the kidney under the influence of the nervous system. It is known that a destruction of the nerves entering the kidney at the hilum is followed by impairment of function of the kidney and the development of an inflammatory process which culminates in abscess and total degeneration of the organ. It is further known that a temporary obstruction of the circulation leading from the kidneys through the emulgent veins is followed by sloughing, or separation of renal epithelium, casts, and the presence of albumen in the urine. A temporary traumatic albuminuria may be thus induced, and the only damage done, aside from the changes provoked in the urin-

*Read before the Hillsdale County Medical Society, January 25, 1907.

ary tubules and the peritubular vessels, is the temporary obstruction of the emulgent vein by a ligature. If this ligature is allowed to remain permanently, the kidney degenerates and ceases to functionate.

We are told that the kidney is located behind the peritoneum, that it rests on the quadratus lumborum and psoas muscles and that it is enveloped in fat and loose connective tissue, that it is fixed in its position and normally is firmly anchored. These views are derived from dissecting room studies. The surgeon who operates upon the kidney or who has studied it with his hand in the living abdomen arrives at a different conclusion as regards the location and mobility of the kidney. The living kidney normally is movable, it floats in the bed of perirenal fat and moves synchronously with the diaphragm. The influence of the movements of the diaphragm in driving the blood stream through the kidney and promoting the urinary flow through the ureter is indicated by the rhythmic jets of urine from the ureteral orifices in the bladder as observed with the cystoscope and in cases of extrophy of the bladder. These evacuations, or urinary jets, are influenced in force and volume by the respiratory movements, and they occur quite independently of any influence exerted by the sympathetic nerve, which penetrates the kidney.

Now this peristalsis, excited primarily by the movement of the diaphragm, reaches to every part of the kidney and ureter, and a certain degree of mobility of the kidney is essential to its elicitation, promotion and development. If the normal kidney floats, instead of rests, in the retroperitoneal space of living persons, any condition which impairs that freedom of motion will be likely to interfere with the impulses and motility given to the kidney by respiration, and, as that motility is a vital or essential force in carrying on the nutrition of the kidney, that organ is liable to disease and consequent degeneration very much as we see other organs of the body undergoing degeneration through want of normal motility and exercise.

Nephritis is a degeneration of the kidney, the result of perverted and impaired motility in the organ. It is in the majority of cases due to the anchorage of the kidney in the deposits of fat and perirenal tissues commonly noted at the autopsy. It is not due primarily, in the writer's judgment, to some mysterious and subtle influence pervading the blood stream and disturbing the intima. The absolute failure of treatment of nephritis with drugs and the frequent cure by the surgical method before mentioned, is in part the foundation upon which this opinion rests. That we should have gone on for years studying the dead kidney in the dissecting room and from these studies deduced our theory as to the causation and treatment of the disease is nothing more than what we might ordinarily expect for it is so easy in starting from a false premise to arrive at a wrong conclusion. Now, it may be that the surgery of the kidney, as already described in this paper, could be simplified in accordance with the idea that the kidney is an organ more or less movable and always floating in the retroperitoneal space; when renal disease is brought about by impaired motility it could be cured by an operation which consists simply in opening the loin, stripping the kidney of its layer of fat, lifting it into a position in the retroperitoneal space where it can float and move with the impulse of the diaphragm and functionate as it normally should, supported in this position until healed by gauze packing and simple devices calculated to free it from the embarrassment due to deposits of fat and connective tissue above it.

The operation practiced by Senn in

the treatment of floating kidney is simple and successful in this sense, that it removes no tissue from the kidney and does not mutilate the organ in any way, No better method of dealing with the nephritic kidney than the adaptation of this method of Senn is known to the writer. But we should not lose sight of one other phase of renal pathology, that the floating kidney is an organ projected into the peritoneal cavity and provided with a distinct mesonephron; that it is capable of wandering more or less extensively in the cavity of the abdomen, and that it is not infrequently the source of serious constitutional disturbances, which sooner or later culminate in that degeneration of the kidney characteristic of some phases of Bright's disease. I think it is apparent to any one, that in proportion as the mesonephron permits the normal movable kidney to wander into parts of the abdomen beyond the direct impulse of the diaphragm, it may undergo degeneration similar to that which we see in Bright's disease, and further because the long mesonephron exposes the blood vessels to twisting upon their long axis and obstructing the emulgent veins. These kidneys, when treated surgically, are dragged into a position between the colon and the diaphragm where the impulses of the diaphragm will be constantly communicated to the kidney, re-establishing its function on normal lines.

The dropsy and edema incident to Bright's disease are, in almost every instance, promptly relieved by the surgical operation which exposes the kidney and restores its motility. This may be due to two causes: first, the removal of the strangulation and congestion to which the organ has been subjected by its deposit of fat and its long mesonephron, and second, to the opening of numerous lymph spaces in the perirenal tissues by the incisions, which permit the free emptying of the water-logged tissues. To quote from my practice, let me recite the case of John S———, of Milan, Michigan, who had for two years suffered from shortness of breath, pallor of face and edema of legs and abdomen, with progressive loss of strength; his urine, on heating with nitric acid in a test tube, revealed a precipitate of albumen half an inch in depth in a tube containing one inch of urine and reagent. He was barely able to get about, going upstairs was quite out of the question, owing to the labored respiration it induced. His pulse was 110 beats per minute, the total volume of urine of 24 hours was less than 20 ounces, and the specific gravity 1005. I opened his loin (under much apprehension as to the patient's ability to endure chloroform anesthesia), found the right kidney anchored in fat, stripped away the fat, dragging fully six ounces from the wound, pushed the kidney forward behind the abdominal cavity and put two strips of gauze twenty inches long and five inches wide under the kidney, allowing the ends of the gauze to project from the wound, left the opening three inches long in the loin to heal by granulation. The result was an increase in the quantity of urine, increase in the specific gravity, disappearance of albumen, disappearance of edema and restoration of the patient to his duties as a farmer.

I might cite many cases of practically the same history, but will not presume upon your time in this direction, but I wish to say that every case of albuminuria with edema of the extremities, general anasarca, and enfeebled heart (not too feeble to survive the risk of anesthesia), should have the loin opened between the last rib and the crest of the ilium, the kidney exposed and stripped of its fatty capsule, then the wound may be drained with gauze wicks and carefully sutured and the patient placed in a more or less prone position that the movement of the diaphragm may

strike the diseased kidney and restore to it one natural and most important factor in maintaining its nutrition. I regret feeling compelled to ignore the divers theories and the beautiful facts evolved and demonstrated by painstaking pathologists and submit this operation for the treatment of the most distressing phase of the symptom complex commonly known as Bright's disease, on purely practical grounds. At the same time I feel that it is my duty to call your attention to the fact that the normal kidney floats in the retroperitoneal space, and that the most important factor in its functional activity is the motility imparted to it by the rhythmic movements of the diaphragm, and on the impairment of this motility I would rest the whole fabric of the infirmity known as Bright's disease.

IDEAS AND IDEALS*

F. R. BLANCHARD, M. D.,
Lakeview.

I feel that it is very difficult to undertake to fill the place of our honored president, Dr. John Avery. But the Montcalm County Society, wishing to make his labors as light as possible, voted last year that the annual address should be given by the first vice-president; hence this effort.

I am a sort of dreamer, and delight at times to close my eyes and give my imagination full rein; at such times I sometimes see, with the mind's eye, a picture of the "True Physician," and so today I have concluded to give you a few of my ideas and ideals; not all my own thoughts, but gathered largely from the writings of other men. I have been reading a little book which I wish every one present here today might possess, "Counsels and Ideals," from the writings of William Osler. Since reading it I regret never having been his student, for surely anyone who "sat at his feet and learned of him," must have been made a better man, with great ambitions and high ideals.

Last year the matter of a fee bill was presented to this society, but after much discussion it was laid upon the table, our president, Dr. Avery, being afraid that, if such a bill were adopted, it would have a tendency to promote a spirit of commercialism among the members. The ideal physician should be one whose aim is the uplifting of humanity and who makes his fee a secondary matter. I believe "the laborer is worthy of his hire" and that every physician has the right and ought to demand proper compensation for his work. Dr. Stimson, of Eaton Rapids, says: "Minimize no treatment, however simple, if it cures the patient you cannot estimate its value in dollars and cents." But we should be very careful lest the dollar grow so large that it obscures the real object of our labor. Some writer has said "The True Physician is a scientific man, a seeker after knowledge, knowledge which is capable of practical application

*Read before the Eleventh Councilor District Medical Society, Greenville, October 19, 1906.

in adding to the comfort and prolonging the life of human beings. So long as he is impelled by the scientific spirit, the physician will add daily to the sum total of knowledge, and will make practical application of that knowledge in the work of mitigating the ills of humanity. If, on the other hand, the commercial spirit become the dominating force in his professional life, his quest for knowledge will become secondary to a quest for gold, and his efforts to lighten the ills of his patients will give place to a systematic effort to lighten their pocketbooks."

Osler says: "Always seek your own interests, make of a high and sacred calling a sordid business, regard your fellow creatures as so many tools of trade, and if your heart's desire is for riches, they may be yours; but you will have bartered away the birthright of a noble heritage, traduced the physician's well deserved title of the Friend of Man, and falsified the best traditions of an ancient and honorable guild."

There is no doubt but that the majority of our profession, especially the larger men, who have become famous and are skilled in their art, have these high ideals; but we smaller ones, who are still near the bottom, are apt to think too much of the commercial side. I have often noticed, when medical men meet together, there is a tendency for their conversation to drift into commercial rather than scientific channels. But, gentlemen, remember this: "If the practice of the healing art be followed by purely mercenary motives and reduced to an exclusively commercial basis, the high ideal is missed; the nobler ambitions having their wings clipped to conform their flight to a low aim."

Few men become rich in the practice of medicine, but it is our privilege, as well as our duty, to value our services highly enough that we may be able to live well, educate our families, and pursue our studies and investigations, but we should never let the matter of the fee stand in the way of giving help where it is needed. We should remember that in practice as well as in sentiment "it is more blessed to give than to receive," and if the good we might do to others be withheld through fear of self-impoverishment, we shall make ourselves not richer, but poorer. "The soldier in the front rank at Antietam or Gettysburg did not stop to think of looking out or taking care of himself." So with the physician in his work, if he is continually thinking of how much he will be able to make, or how large a fee he can charge, he will not be a success, but if he throws his whole soul into it, with the fee as a secondary consideration, success will be sure to crown his efforts and the dollars will come.

On the other hand, we should look to it that our generosity is not abused. There is a class of individuals whom it is a crime to help—the dead beat class; to these we should have the courage to say "no." I think there is too much charity work, it has a tendency to make people dependent, and I think no matter how poor the individual, we should demand something for service rendered; it will help to lift him out of his dependent position and make him more self-reliant and raise his self-esteem. Emerson says: "Then again do not tell me, as a good man did today, of my obligation to put all poor men in good situations. Are they my poor? I tell thee, thou foolish philanthropist, that I grudge the dollar, the time, the cent I give to such men, as do not belong to me, and to whom I do not belong. There is a class of persons to whom by all spiritual affinity I am bought and sold, for them I will go to prison if need be; but your miscellaneous popular charities; the education of college fools; the building of meeting-houses to the vain end to which they now stand; alms to sots; and the thou-

sand-fold relief societies; though I confess with shame I sometimes succumb and give the dollar, it is a wicked dollar, which by and by I shall have the manhood to withhold."

The ideal physician should do good work, honest work and thorough work. What a farce, with a great many of us, is the routine office work. I am ashamed of myself when I think of the times when I have examined the lungs and heart through all the clothing, or percussed a liver through a corset or palpated an abdomen without undoing the dress skirts. I was very much impressed this summer with the work done in the out patient department of the Massachusetts General Hospital; no matter how many patients, whether rich or poor, whether their ills were trivial or severe, all were subjected to a rigid, thorough examination, and in this way I saw four cases of diabetes diagnosed, which had been missed by their family physician, just because they did not do thorough work. Osler says: "Every physician should spend a good deal of his time in the laboratory. A room fitted as a small laboratory, with the necessary chemicals and a microscope, will prove a better investment in the long run than a static machine, or a new-fangled air-pressure spray apparatus." Rev. Herman Randall in one of his sermons, said: "Whatever dreams may have come to Christ, during the years until he reached the maturity, we know not; whatever plans may have been maturing we cannot fathom; or whatever ambitions he may have espoused nothing is told us; but we see him day after day going back to the carpenter's bench and taking up the tools and continuing his work: a wage-earner, a day laborer, dignifying forever, in the eyes of man, this great part of our existence to which we all must give ourselves, in some form or other. After all it is not the wages which make a man's work of value. I know that it is the way we estimate our work, by what we receive of material compensation. But the thing that makes your work of value is the worth of your work. You may receive low wages, or high, or nothing at all, but the inspiration to the man who catches this great truth that life is a divine gift, is that God touches life at every point, that the Divine is revealed in the human, and nowhere perhaps more fully than in this work of our daily lives. When a man once comes to see that, he cares not so much about the wages, it is the worth of the work he renders, it is the quality of the work he does, it is the kind of service that he gives, whether of heart or human brain, that brings him truest satisfaction."

The Ideal Physician should be honest with his patient. Dr. Richard Cabot, of Boston, in a paper read before the American Medical Association this year, said: "The physicians are to blame for the patent medicine evil, we created the demand, we feed the demand." Probably nine-tenths of the medicine prescribed are placebos—this creates a drug habit with the people, which they finally gratify, without the advice of the physician, by buying patent medicines. A placebo should never be administered. If the patient does not need the medicine, tell him so frankly, and by a process of education teach him the principles of right living. We should also be honest with our patients in regard to their ailments—a lie is never justifiable, if a patient is suffering from some serious malady it is necessary for him to know it, so that he may have proper care, and that he may co-operate with his physician, as to the best methods to prolong his life and promote his welfare.

The Ideal Physician must be sympathetic. The administration of drugs is the smallest part of our profession, we must be able to help our patients in other ways, give them "advice in their

troubles, sympathy in their sorrows, and aid in their misfortunes." Dr. Herdman, of Ann Arbor, in his lectures often says:

"Can't thou not minister to a mind diseased,
Pluck from the memory a rooted sorrow,
Raze out the unwritten troubles of the brain,
And with some sweet oblivious antidote
Cleanse the stuffed bosom of that perilous stuff,
Which weighs upon the heart,"

"If you cannot do this you are not a true physician."

Osler says: The practice of medicine is an art, not a trade; a calling, not a business; a calling in which your heart will be exercised equally with your head. Often the best part of your work will have nothing to do with potions and powders, but with the exercise of an influence of the strong upon the weak, of the righteous upon the wicked, of the wise upon the foolish. To you, as the trusted family counsellor, the father will come with his anxiety, the mother with her hidden grief, the daughter with her trials, and the son with his follies. Fully one-third of the work you do will be entered on other books than yours. Courage and cheerfulness will not only carry you over the rough places of life, but will enable you to bring comfort and help to the weak hearted, and will console you in sad hours, when, like Uncle Toby, "you have to whistle that you may not weep."

We often find our patients' ills due to other causes than physical; it may be the loss of a friend, an unhappy love affair, financial loss, home surroundings uncongenial, or a hundred other things. We should be able to get to the bottom of their troubles, and if possible straighten them out. I often tell my patients, that the true hero or heroine is the one who is able to fit into his surroundings. I carry in my pocket and often read to my patients this quotation from John Locke: "Live the best life you can, but live it so as not to give needless offense to others; do all you can to avoid the vices, follies and weakness of your neighbors, but take no needless offense at their divergences from your ideal."

More than any other, the practitioner of medicine may illustrate the great lesson that we are here, not to get all we can out of life for ourselves, but to try to make the lives of others happier. Let me close this paper with one more quotation from Osler: "To have striven to have made an effort, to have been true to certain ideals, these alone are worth the struggle."

Do not be in a hurry to perform primary amputations after severe traumata of the extremities. First, combat the shock and prevent hemorrhage. Keep the wound as clean as possible and only when the patient has quite recovered from his shock (at the end of a few days or more), perform the amputation.

It is well to remember that not all ulcers of the stomach are characterized by the classical symptoms of pain, vomiting and hemorrhage. Many patients presenting "dyspeptic" symptoms of only mild grade are afflicted with this disease and such cases may easily be diagnosed as functional disorders until the persistence of the symptoms leads one to suspect the graver malady.—*Am. Jour. Surgery.*

Be very guarded in the prognosis of ulcerations on the sole of the foot in diabetic or tabetic patients, no matter how small or trifling the ulceration may be. They persist for long periods and may even never heal.

A persistent elevation of temperature after a radical operation for mastoiditis should lead one to suspect the possibility of a complicating brain abscess. If the fever shows wide fluctuations of temperature a sinus thrombosis is more probably the cause.

The thirst following a hemorrhage from gastric ulcer is best relieved by small quantities of cocain in solution.

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to B. R. Schenck, M. D., Editor, 502 Washington Arcade, Detroit, Mich.

Subscription Price, $2.00 per year, in Advance.

APRIL

Editorial

The bane of the present-day profession lies in the field of therapeutics in more ways than one. In the majority of all medical schools the subject is insufficiently taught and this is the direct root of that succeeding evil,—the prescription of patent and proprietary articles. Now a layman comes into our midst and points our shame; Edward Bok, editor of the *Ladies' Home Journal,* read a paper entitled "The Physician and the Nostrum" before the Philadelphia County Medical Society, December 12, 1906, which appears in the *Journal of the American Medical Association* for February 23, 1907. Mr. Bok has wielded a valiant pen for some time, in the same cause as Samuel Hopkins Adams, and it is not sarcasm when we take opportunity to thank both these men for the campaign they have conducted on behalf of the ethical medical profession. We only fear that their work has been too little read and too little appreciated by physicians.

Beyond a doubt their efforts have had a greater educating effect upon the general public than all the spasmodic and feeble measures ever taken by practitioners of medicine, singly or collectively. To be sure, the *Journal of the American Medical Association* is conducting a well-defined and persistent policy concerning this subject, but it reaches only its subscribers, and of those we fear it impresses too few. Nevertheless, its work would indirectly benefit the public if only physicians would heed the lessons being constantly set before them.

For instance, would not a thoughtful reader be impressed by the following words of Mr. Bok?—

"I am going to try to point out to you that in two distinct ways the medical profession is today absolutely hindering us laymen in our fight and clogging the wheels of further progress: First, in your inactivity where you should be active, and secondly, by your direct coöperation with the 'patent medicine' traffic."

The inactivity referred to, as subsequently elaborated, consists in the failure of physicians to fight against the patent medicine and other worse medical advertisements in the lay press. Yet despite their comparatively infinitesimal help in this fight, much has been accomplished.

"Today scarcely one of the reputable monthly magazines will accept a 'patent-medicine' advertisement, and the same is true of the prominent weeklies. The best of the farming papers are today immune from this advertising. Pressure is being brought on the religious press that will soon result in a general clearing up of those papers. Progress with the daily newspaper has been slower; still there are forty-three daily papers, large and small, today that will not accept 'patent-medicine' advertisements. Now, gentlemen, remember that such a step means a great deal in the revenue of a periodical. I know a magazine that could easily increase its advertising revenue six figures a year if it accepted 'patent medicine' advertisements. I have no doubt that if the New York *Times* and Philadelphia *Ledger* admitted this business these two papers could increase their revenue by at least fifty thousand dollars a year. Many of these papers and magazines have taken this stand on principle; others because of the pressure brought on them by their readers. The public at large has been writing to its newspapers insisting that those advertisements shall stop; the church people have been writing to their papers; the farmers have been writing to their papers—all classes of the public have been busy; all classes, gentlemen,—except the physicians.

"Look at your average medical paper—reeking with the advertisements of proprietary—so-called ethical—preparations. And not only advertise-

ments, but reading notices palpably intended to deceive. The very class of papers that should have been the first to cleanse their pages is today the last to make even a move in that direction, and stands today, in this respect, as a discredit to honest journalism.

"Now, what is the result? I go to the publisher of a newspaper and ask him to clean his columns of 'patent medicines,' and he points, as he has done in many cases to me, to the medical press. 'Why, man,' he argues, 'these preparations can't be so bad as you fellows make out, or they wouldn't be advertised in these medical papers. These medical publishers know better than you do what is good and what is bad in these "patent medicines," and what they allow to go into their papers I guess we can safely stand for.' That is why it is so important that the medical press should be cleansed of these advertisements: it is in the influence, the example that they exert on the lay press, and it is an argument on the part of the lay publisher that is very difficult to combat. It is this argument that again and again is used by lay publishers in writing to their protesting readers, and then these readers send the letters to me and ask, 'Is this true? Are these advertisements permitted in good medical papers?'

"Now, you know that it is true, and you know also that it should not be so, and yet what have you, physicians, done to stop it? You have, in your societies, passed resolutions, a very easy and comfortable thing to do and about as ineffective as it is comfortable. I have myself seen these resolutions received by the medical publishers, and disposed of with a grin—in the waste-basket."

All this is a stigma upon the medical profession which ought to be eradicated. That it is not, is due to ignorance, heedlessness, or connivance on the part of medical men;—ignorance of those who are unaware of the evils; heedlessness of those who know, but make naught but empty protests; and connivance of those who, for various motives, have an interest in the perpetuation of such evils.

But it is the second count on which the profession must be held most opprobiously guilty,—the "direct coöperation with the "patent medicine" traffic. Under this accusation comes the accusation—shamefully deserved—that physicians widely prescribe remedies of a proprietary character, whose formulae are secret, or, published by patent, are yet unknown or imperfectly known by the prescriber. This practice has grown to an extent that is alarming, because of the harm that is done, not only to the patient, but to the medical man himself, and his colleagues the world over.

"Now, gentlemen, I will not gainsay that there are good proprietary preparations and that a physician, after a diagnosis of a case, and knowing his patient, and being fully aware of the exact ingredients in such an ethical preparation, is perfectly justified in prescribing it, if he feels that it meets the conditions of that case. Whether such a course is detrimental to scientific medicine is for him to settle with himself.

"But there is a time when he is not justified in such prescription, and when he closely borders on the criminal line, and that is when he prescribes a preparation of which he either does not know the ingredients or, what is even worse, when he has erroneous information as to those ingredients.

"And yet this prevails today in the medical profession, and prevails to an extent that is almost impossible of belief to the layman. When I heard the first mutterings of this condition of things I gave it no credit. While I knew that physicians were human and made their mistakes in common with us all, I could not believe that they could make *that* mistake. But instance after instance came to me until I could no longer turn aside, and I determined to find out. And recently I did.

"Conditioned that I should not reveal my source of information, nor give names of remedies or physicians, I was given an opportunity to examine 100 prescriptions that had been filled. Of those 100 prescriptions, 42 prescribed a proprietary drug or article in part or in whole. I selected 30 of these, and called on each of the physicians who had written those prescriptions. Now, gentlemen, those physicians were men of excellent standing, some very high in their profession, and how many of those 30 physicians, would you say, gave me an accurate, or anything approaching an accurate, analysis of the ingredients of the nostrums which they had pre-

scribed? How many? *Two*, gentlemen, *two* out of all the thirty! The rest either did not know, or—what is even more dangerous—thought they knew when they did not.

"One of these prescriptions called for a certain headache remedy, given to a woman who was in an exhausted condition, who had weak heart action, and who, having read of the dangers of headache remedies, did not trust her own judgment, and called for her family physician. He gave her a remedy, saying that he knew it to be harmless, that it was entirely free of the powerful drugs of which she had read. Within a half-hour of taking the remedy the woman's lips began to get blue, she went into unconsciousness, and it required all that two doctors could do to bring the woman back to consciousness. The remedy contained 61.5 per cent. of acetanilid! The physician, when I saw him, showed me his proof on which he had based his knowledge, the statement of the manufacturers, whom he said were reputable people—a statement, as I happen to know, written by a man who never went to a medical college, a man whose word every physician would scorn to accept did he know him. When I showed him my analysis he was dumbfounded, and confessed he hadn't known. *But, gentlemen, he should have known. It was his duty to know!*

"Another prescription called for a certain tonic that the physician told me was one of the most reputable tonics known to the profession; its ingredients of quinin, beef and iron were universally known and nearly all physicians prescribed it. One of its greatest virtues was, he told me, that it was non-alcoholic. I proved to him that the tonic did not contain even a trace of beef or iron, but that it did contain 22 per cent. alcohol. He could not gainsay my authority; he was surprised and confessed that he had not known. *But, gentleman, shouldn't he have known?*

"One of these prescriptions gave to a child a remedy calculated to soothe its restlessness. It did so, so effectively that the parents changed their physician, went to another, who prescribed another remedy, and the child lay in a stupor for two hours. I saw both of these physicians; they confessed to me they did not understand the case. But I did, gentlemen, for both of these physicians had given that child morphin concealed in "ethical" proprietary preparations, and when I proved this to them they were amazed and confessed they hadn't known. *But, gentlemen, should not a physician, prescribing for a child, know?"*

If Mr. Bok made similar investigations in our midst he would find the same or a worse condition. Probably no one is absolutely innocent of the accusation, but sober reflection brings the conviction that the United States Pharmacopeia contains enough drugs for the treatment of disease; that it is possible to prescribe those drugs in sufficiently elegant form, and if one doesn't know how, he should learn; moreover, new preparations are being adequately judged by the Council on Pharmacy and Chemistry of the American Medical Association, and if one must have new remedies, let him consult the Council's opinion, rather than the manufacturer's information. Dr. F. S. Smith in his paper on "Pharmacopeia Precox" (see original articles) touches saliently upon this very point and presents it in a most sensible manner.

A grave state of affairs surely exists when a layman can enter our ranks and so easily lay bare the ignorance and carelessness that exists. What would happen if such an exposition should be made public? Would it not tend to seriously impair the prestige of legitimate medicine? We believe that the first step to remedy the evil should be taken by medical schools, where much more thorough instruction should be given, first in therapeutics, and second, in medical ethics.

* * *

Patent medicine advertisements in the religious journals are attracting attention outside of the medical profession. Churchmen, everywhere, are awakening to the fact that these nefarious and lying statements do more harm when they appear in the religious press, than elsewhere, because they reach a class who believe everything they read in their favorite church paper. They believe it is true, "because the church paper publishes it."

The action of the Presbytery of Lima is worthy of note and recommendation to other similar bodies. For a copy of this resolution we are indebted to Dr. B. H. Blair, of Lebanon, Ohio, whose writings on the subject have attracted considerable attention and have had not a little influence. This resolution is as follows:—

The Presbytery of Lima, in session at Lima, Ohio, this tenth day of December, A. D. 1906, by unanimous vote, puts on record its approval of the investigations which have led to the discovery of the immoralities and fraudulent practices connected with the patent and proprietary medicine business as conducted by the American Proprietary Association.

We give our hearty sanction to the efforts of many secular newspapers and journals to clear their publications of misleading and fraudulent advertisements. We counsel and advise editors and publishers of church papers of our denomination to do likewise, and to make no contracts with advertisers of medicines for self treatment, believing that such practice leads to charlatanry, fraud and imposition.

Recognizing the pastor's responsibility in connection with reading in the households of his people, we demand that every line and sentence in the church paper, whether editorial, advertisement or other reading matter, shall be the truth, the whole truth and nothing but the truth.

We declare it our purpose to refuse endorsement to church publications which refuse to comply with this requirement.

That public announcement of this our purpose may be made, a note of this action is directed to be inscribed in the minutes of this meeting by the clerk, and copies of the same sent by him to the *Herald and Presbyter,* of Cincinnati, Ohio, and *The Interior,* of Chicago, for publication.

D. EVANS JONES, Stated Clerk.

Venedocia, Ohio, Dec. 18, 1906.

♣ ♣ ♣

A newspaper item from Grand Rapids describes the death of a woman under somnoform. She was of middle age, in apparent good health, as asserted by the physician who examined her just prior to the anesthetic, and took the inhalation normally while six teeth were extracted.

"The patient began to show signs of regaining consciousness, but in a moment the pulse became weak, the pupils dilated, and the patient commenced to have peculiar respiration,—a long, blowing exhalation, and a short imperceptible inhalation. This condition remained for a moment, when her heart seemed to be paralyzed, and I could find no signs of heart beat or pulse, but the respiration continued from 60 to 90 seconds, then stopped at once. Everything possible was done to restore the patient, as dilating sphincters, hypodermics of nitrate of strychnia, nitro-glycerine, inhalation of amyl nitrite, and artificial respiration."

The above quoted words of the attending physician's report gives a good idea of a death from anesthesia. Such accidents can never be foretold, indeed they most characteristically occur in persons apparently healthy, and this is because in diseased subjects a safer anesthetic is chosen or greater care exercised. The published reports on somnoform prove that it is not so safe as ethyl-chloride or ether, and does not compare with nitrous oxide gas. Those who persist in using somnoform are comparable to those who persist in chloroform,—they regard convenience more than safety. In the hands of the average dentist or physician the anesthetic for extraction of teeth should be nitrous oxide gas. The administration of ethyl chloride and ether should be entrusted only to an experienced anesthetist, and chloroform should be used only under especial indications. There is no apparent indication for somnoform under any conditions, when better agents are at command.

♣ ♣ ♣

Opsonic Therapy and its relation to the treatment of disease are subjects in which there is a growing interest in this country. The developments in this line

of research, as being carried on in England by Sir A. E. Wright, who has, perhaps, been more largely instrumental in crystallizing the theory and rendering its application to the treatment of disease practical than any other one man, together with the results of investigators in other countries, seem to bid fair to revolutionize certain lines of therapeutics. Indeed, the growing knowledge of opsonins is indicative of such great promise, it behooves physicians who would be progressive to familiarize themselves with what is being accomplished in this line.

One of the most readable and most interesting articles on opsonins that have come to our notice in American medical literature is the one occurring in the February sixteenth number of the *Journal of the American Medical Association.* This article is the published address recently delivered, by invitation, by Dr. A. P. Ohlmacher, of Detroit, before the Chicago Medical Society. The article gives a resumé, in condensed form, of the present status of the opsonic hypothesis and gives expression to a number of sentiments with which we heartily agree. For example, we believe, with this author, that "the appreciation of Wright's conquests has been retarded in the United States by the publication of several papers too severely and too needlessly abstruse, with the result that a comparatively simple theory and the excellent results of its application have been rendered confusing and unattractive to the average medical man."

The opsonic theory, condensed, is that there are certain substances present in the blood serum that have the power of so acting on pathogenic germs, as to enable certain white blood-corpuscles (the phagocytes) to destroy these offending microrganisms. Each germ is supposed to have a corresponding opsonin, and the quantity of an opsonin as compared with that in a normal blood is known as the "opsonic index." A lowering of an opsonic index opens the way for the invasion of the corresponding germ and the establishment of a diseased condition which that germ may produce. An infection by any germ is prima facie evidence that the opsonin against that germ is low, and it means that in order to bring about a cure of the infection, that particular opsonic index must be increased to or above normal. Oftentimes, this takes place naturally, and a spontaneous recovery follows, but this does not always occur and a chronic condition ensues. It has been abundantly demonstrated that the opsonic index can be raised by artificial means—that is, by the introduction into the system, at proper intervals, of small quantities of a sterilized culture of a germ corresponding to the one that is to be combatted. This is the basis of opsonic therapy The substance injected is, generally, referred to as a "vaccine," but we agree with Dr. Ohlmacher in considering this an improper use of the word. Opsonic developments show the necessity of a special nomenclature for this line of work and as a result such a nomenclature is gradually being coined.

The results from his clinical application of opsonic therapy, as reported by Dr. Ohlmacher, are remarkable and seem to outstrip anything yet accomplished by drug therapy and conventional treatment. His largest experience, it seems, has been with staphylococcus infections, some of which were very obstinate and of long standing. A most pronounced improvement followed promptly in all cases, and in the majority resulted in recovery. Two of these cases were acne vulgaris, of one and two years' standing, respectively. Eight injections of a staphylococcus "vaccine" in the first case, covering a period of six weeks, and six injections in the second case, brought about a surprising improvement, both local and general. Several other cases

of acne, including one of obstinate acne rosacea, are referred to as having been either greatly benefitted or entirely cured. A case of furunculosis and progressive multiple axillary adeniis, which failed to yield to careful surgical treatment and threatened the necessity of extirpating the involved glands, responded beautifully to the opsonic treatment—complete recovery following only three injections of the "vaccine." A deep palmar abscess and a case of so-called "psoriasis," but which bacteriologic examination indicated to be a "staphylococcus dermatosis," each promptly yielded to the treatment.

Of colon bacillus infections, a case of cystitis plus a pyelonephrosis and a case of mastoid fistula were successfully treated. A complete and permanent closure of the fistula was accomplished within a week.

A perfect recovery from a sacculated pneumococcus empyema in a seven year old girl was effected in seven days.

One case of advanced pulmonary tuberculosis was treated, but without apparent beneficial result other than a slight improvement which followed the first injection. A case of urinary tuberculosis complicated with a pneumococcus infection had been treated with mixed tuberculin and pneumococcus "vaccine" was marked by a progressive improvement.

The author refers to Wright's sanguine prediction that gonorrheal infections will yield to opsonic therapy, and to the difficulty of making a suitable gonococcus "vaccine." However, his efforts in the direction of growing the gonococcus for this purpose have been gratifyingly successful and, hence, he has had an opportunity of testing in several cases this line of treatment. He reports among the gonorrheal cases, one of balanoposthitis, one of double epididymitis and perineal fistula, one of subacute epididymitis, two of gonorrheal rheumatism, two of gleet, two of ophthalmia, one of conjunctivitis and two of vaginitis in little girls, all of which yielded within a few days to the treatment and most of them were completely cured.

The author concludes with this hopeful prophecy: "Finally, from what I have already seen, which is tempered by a rather extensive experience in private and institutional medical work, I am prepared to assert that with the proper artificial autoinoculation we can obtain constitutional and local improvement in many subacute and chronic infections entirely beyond anything previously possible in medicine. And I am personally assured that in these bacterial inoculations we possess therapeutic agents of a specificity and potency exceeding anything heretofore employed in the treatment of disease, except possibly the antitoxin of diphtheria."

♣ ♣ ♣

Governmental recognition for services performed in the domain of science has not been frequent in the United States. In Europe, and more particularly in Germany, instances in which medical men and investigators in lines allied to medicine have been honored by the government are numerous. It would also seem that scientific men are better known and more keenly appreciated by the public in the old world than in the new. We believe that this is not because these men are more deserving than similar workers in America, but rather because the laity has a better knowledge of scientific matters on the other side of the Atlantic. Recently a popular vote has been taken in Germany to decide who are the twelve greatest men in the country. The list begins with the Emperor. The second choice is Gerhard Hauptman, the dramatist. Robert Koch, the scientist, is third, and Ernest Haeckel and William Conrad Roentgen, who have added to the scientific reputation of their country, are the

fourth and fifth selections in the list. The sixth name is the present Chancellor of the Empire, Prince Von Buelow. Seventh and eighth are Max Klinger, the artist, and Richard Strauss, the composer. A socialist, August Beckel, and a soldier, Count Haessler, are ninth and tenth, while the eleventh place falls to Behring, and the twelfth to Begas, the sculptor.

It will be noted that four of those in the list are scientists, three of them being doctors of medicine. We wonder how the medical profession would fare, were a like contest to be held in the United States.

Occasionally scientific merit is recognized in America and it is partially because of such novelty, but more especially because it is eminently deserved, that the promotion of Dr. James Carroll is noteworthy. Doctor Carroll has served in the army since 1874. His epoch making work in Cuba, on the transmissi bility of yellow fever, is well known to every medical man. It is pleasing to know that it is also appreciated by our representatives at Washington. Congress, by special act, has raised Dr. Carroll's rank in the army to major, and there is a movement on foot to secure for this courageous army surgeon one of the Nobel prizes.

♣ ♣ ♣

May fifteenth and sixteenth are the dates of the annual state meeting at Saginaw, and it is hoped that every one who can possibly do so will lay aside his work and go to the meeting. The dates have been carefully selected so that there will be no conflict with the meetings of any of the national societies. The meeting comes at a time when each of us feels more or less like taking a few days' holidays. How can such a holiday be better spent than by going to Saginaw, meeting old friends, and making new acquaintances? At this writing, enough of the program has been prepared to assure those in attendance a variety of good topics, so that everyone will find something in one or another of the sections to interest him. Let each one come prepared to take part in the program, for he who puts the most in will get the most out of the session.

Saginaw has a reputation for hospitality, and the Committee of Arrangements has been enthusiastically working for the entertainment. All that is now required to make the meeting a great success is a large crowd.

The program will be printed in full in the May issue of the Journal.

♣ ♣ ♣

The Atlantic City Meeting of the American Medical Association will probably be the largest medical gathering ever held in the western hemisphere. The attendance has been increasing every year, and as Atlantic City has been demonstrated to be one of the most popular meeting places, it is fair to assume that the registration this year will reach nearly 5,000 physicians. The Jamestown exposition will undoubtedly be a strong side attraction. The American Academy of Medicine will meet on Saturday and Monday, June first and third, and the American Medical Association from Tuesday, the fourth, until Friday, the seventh.

The attendance from Michigan should be large. The round trip fare will be that of the single rate plus one dollar—about $16.00 from Detroit.

♣ ♣ ♣

Amendments to the Medical Act have been introduced in the House of Representatives by Mr. L'Esperance, one of the Detroit members. The amendments, if passed, will greatly strengthen our medical law, and under it, convictions for practicing without a license should be readily obtained. Particular attention

is called to section 6, wherein are stated the causes for which a certificate may be revoked.

At this writing, the bill is before the House Committee on Public Health, Dr. E. T. Abrams, Chairman. It has been somewhat modified since its introduction. We print the text as it now stands, as it is probable that the bill will be in this form when reported by the Committee.

HOUSE BILL NO. 20.

Introduced by Mr. L'Esperance, January 11th, 1907.
Referred to the Committee on Public Health.
Reported substituted, February 8th, and ordered printed for the use of the Committee.

A BILL

To amend sections 3 and 9 of Act No. 237 of the Public Acts of 1899, entitled "An act to provide for the examination, regulation, licensing and registration of physicians and surgeons, and for the punishment of offenders against this act, and to repeal acts and parts of acts in conflict therewith," as amended by Act No. 191 of the Public Acts of 1903, and Acts Nos. 56 and 161 of the Public Acts of 1905.

The People of the State of Michigan enact:

SECTION 1. Sections 3 and 9 of Act No. 237 of the Public Acts of 1899, entitled "An act to provide for the examination, regulation, licensing and registration of physicians and surgeons, and for the punishment of offenders against this act, and to repeal acts and parts of acts in conflict therewith," as amended by Act No. 191 of the Public Acts of 1903 and Acts Nos. 56 and 161 of the Public Acts of 1905, are hereby amended to read as follows:

SEC. 3. On and after the date of the passage of this act, all men and women who are not already legally registered under Act No. 237 of the Session Laws of 1899, and acts amendatory thereto, and who wish to begin the practice of medicine, surgery and midwifery in any of its branches in this state, shall make application to the Board of Registration in Medicine to be registered and for a certificate of registration. This registration and certificate shall be granted to such applicants as shall furnish satisfactory proofs of being at least twenty-one years of age, and of good moral and professional character, but only upon the compliance with the conditions contained in one or either of subdivisions first, second or third of this section:

First, The applicant shall be registered and given a certificate of registration if he or she shall satisfactorily pass an examination before the board conducted by its members, or by qualified examiners appointed by the board, or by both, including the following subjects: anatomy; physiology; chemistry and toxicology; histology and embryology; bacteriology; pathology; surgery; practice of medicine, including mental and nervous diseases and diseases of children; diseases of the eye, ear, nose and throat; obstetrics; gynecology; medical jurisprudence; hygiene and public health; materia medica and therapeutics; and such additional subjects made necessary by advances in medical education as the board may designate, said examinations to be conducted as follows:

(a) The examination may be taken as a whole on all of the subjects as aforesaid, and shall be designated as the primary-final examination, or said examination may be divided into a primary examination upon the subjects of anatomy; physiology; chemistry and toxicology; histology and embryology; and bacteriology, as the board may determine, and a final examination upon the remaining subjects as aforesaid, not included in the primary examination;

(b) The applicant shall file with the secretary of the board, at least one week prior to an examination, an approved application, through a blank furnished by the board, covering the detail of his personal history and his preliminary and medical education, and such other evidence of qualification as the board may require;

(c) The board shall make such rules and regulations governing the conduct of the examinations as it shall deem necessary, and wilful violation of such rules and regulations shall subject the applicant to the loss of the examination and fee;

(d) The examination shall be made as practical as possible in order to test the applicant's qualifications as a practitioner of medicine, the method of which shall be in accordance with the board's best judgment, and may be in writing, or by an oral, or by both.

(e) The questions on all of the subjects listed under this section for examination, with the exception of materia medica, therapeutics and prac-

tice of medicine, shall be such as may be answered alike by all schools of medicine;

(f) The applicant shall if possible be examined in materia medica, therapeutics and practice of medicine by those members of the board, or by qualified examiners appointed by the board, belonging to the same school as the applicant; and no applicant shall be rejected because of his adherence to any particular system of practice;

(g) An average percentage of at least seventy-five per cent of correct answers on all of the subjects listed under this section, and of not less than fifty per cent on each subject, shall be required of every applicant: Provided, That in the case of a qualified applicant who has been in reputable practice at least five years, at the discretion of the board, this requirement of minimum percentage may be modified by the board to meet the exigency of the case;

(h) An accepted applicant for the primary-final examination or for the final examination, as noted in subdivision first (a) of this section, shall have a diploma from a legally incorporated, regularly established and reputable college of medicine within the states, territories, districts and provinces of the United States, or within any foreign nation (provided such foreign nation accord a like privilege to graduates of approved medical colleges of this state) having at least a four years' course of eight months in each calendar year, as shall be approved and designated by the Board of Registration in Michigan: Provided, That such applicant shall have, prior to the beginning of his course in medicine, or registration, or matriculation in an approved medical college, a diploma from a recognized and reputable high school, academy, college or university, as shall be determined by said board, or an equivalent qualification, or shall have a certificate from examiners appointed by and in accordance with the regulations of aforesaid board of having passed an examination equivalent, at least, to the minimum standard of preliminary education adopted and published by the board, and at such time and place as the board may designate. The applicant shall pay to such examiners a fee of five dollars prior to the examination: Provided, however, that a higher requirement of preliminary education shall not apply to those students who, on the date of the passage of this act, were regularly registered as students of legally organized and reputable medical colleges, as shall be determined by said board, but that the standard of preliminary education shall equal, at least, the minimum standard in force in this state at the date of aforesaid registration of students: And Provided also, That a higher requirement of education shall not apply to those graduates of legally organized and reputable medical colleges, as shall be approved of by said board, who had graduated from such colleges prior to the date of the passage of this act, but that the standard of medical education shall equal at least the minimum standard in force in this state at the date of graduation;

(i) Students of medicine in regular attendance at a recognized medical college, as shall be determined by this board, and endorsed by said board as having fulfilled the legal requirements of the state for entrance to, or matriculation in recognized medical colleges, and who have completed, in accordance with the board's adopted and published minimum standard of medical education in such recognized medical college, through attendance and examination, and not prior to the termination of the second year in such institution, among others, the subjects of anatomy; physiology; chemistry and toxicology; histology and embryology; and bacteriology, as the board may determine, shall have the right to a primary examination, as recorded under subdivision first (a) of this section, upon such prescribed subjects, said examination to be held at such times and places as may be designated by the board, and to receive from the board a certificate showing the credits received thereon in the several subjects upon which an examination shall have been had as aforesaid, and such credits obtained shall, at the election of the student, be included in and form a part of the examination heretofore called the final examination under subdivision first (a) of this section: Provided, That subsequent to graduation from a recognized medical college, in said final examination for a certificate of registration, the applicant shall, if presenting said credits to the board at the time of his application for examination, be examined only in those remaining subjects prescribed under subdivision first of this section and which have not been listed as subjects of aforesaid primary examination;

(j) The applicant shall pay to the board a fee of twenty-five dollars prior to the examination, divided as follows: Ten dollars for the primary examination, and fifteen dollars for the final examination. If such examinations are taken together, or as a whole, the fee shall be twenty-five

dollars for such primary-final examination. No additional fee for registration shall be charged to those who successfully pass the examinations: Provided, That this schedule of fees shall not apply to those students in regular attendance in medical colleges prior to the date of the passage of this act;

(k) The board shall, in the recognition of medical colleges, at its discretion, list such colleges in three or more classes or groups: Group I including those colleges who fulfill the advanced requirements of this act, and who maintain the board's standard of preliminary and medical education; Group II including those colleges who have fulfilled the standard of medical education demanded by this state at the date of the diploma, and Group III including those colleges whose courses are recognized only for advanced standing in recognized colleges listed under Group I: Provided, That a diploma issued by a medical college listed by the board in one or more of the groups or classes as aforesaid, shall be recognized as a qualification under subdivision first (h), second and third in this section, in the event only of it representing the actual standard of preliminary and medical education determined and set by the board.

1. The Board of Registration in Medicine shall, from time to time, adopt and publish a minimum standard of preliminary and medical education, and no high school, academy, secondary school, college, university or medical college, or other institution or board shall be approved and designated, or its diploma or certificate be recognized by said board under subdivision first of section three of act, unless, in the judgment of the board, it conforms with such standards.

2. The applicant may, at the discretion of the board, be registered and given a certificate of registration if he shall present satisfactory proof of the possession of a certificate of registration or license which has been issued to said applicant in any foreign nation where the requirements of registration, at the date of the license, shall be deemed by said Board of Registration in Medicine to be equivalent to those of this act, and shall otherwise conform to the restrictions and regulations adopted and in force by the board relative to the recognition of, or the endorsement of certificates between states: Provided, Such country shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be fifty dollars;

3. The applicant may, at the discretion of the board, be registered and given a certificate of registration if he shall present satisfactory proof of the possession of a certificate of registration or license which has been issued to said applicant within the states, territories, districts or provinces of the United States where the requirements for said applicant's registration, at the date of his license, shall be deemed by the Board of Registration in Medicine to be equivalent to those of this act: Provided, That said applicant shall otherwise conform to the restrictions and regulations adopted and in force by the board relative to the recognition of, or the endorsement of certificates between states. The fee for registration from applicants of this class shall be fifty dollars;

4. If any person shall unlawfuly obtain and procure himself to be registered under this section, either by false and untrue statements contained in his application to the Board of Registration in Medicine, or by presenting to said board a false or untrue diploma or license, or one fraudulently obtained, he shall be deemed guilty of a felony, and on conviction thereof shall be punished by a fine of not less than three hundred dollars, nor more than five hundred dollars, or imprisonment at hard labor for not less than one year, or more than three years, or both, at the discretion of the court, and shall forfeit all rights and privileges obtained or conferred upon him by virtue of such registration as a practitioner of medicine;

5. Any person who shall swear falsely in any affidavit or oral testimony made or given by virtue of the provisions of this act, or the regulations of the Board of Registration in Medicine, shall be deemed guilty of perjury, and upon conviction thereof shall be subject to all the pains and penalties of perjury;

6. The State Board of Registration in Medicine may refuse to issue the certificate of registration herein provided for, to any person in the habit of getting intoxicated; to any person who is a victim of the drug habit; to any person convicted of any offense involving moral turpitude, and to any person who has been guilty of unprofessional conduct.

Said Board may also, for like causes, revoke

any certificate of registration heretofore or hereafter issued upon said Board, and said Board may also revoke any such certificate issued by said Board through error or mistake or by reason of the applicant having made false or fraudulent statements or representations to said board in order to procure the issuance of such certificate. Said board may also revoke any such certificate of registration of any physician who inserts or causes to be inserted in any newspaper, pamphlet, circular or other written or printed paper any advertisement relating to venereal diseases or other matter of obscene or offensive nature. Said board may also revoke any such certificate of registration of any physician who, for the purpose of procuring patients, employs any solicitor, capper, or drummer, or who subsidizes any hotel or boarding house, or pays or presents to any person any money or other valuable thing for bringing patients to him.

"Unprofessional conduct" within the meaning of this act is hereby defined to be:

(a) Willful betrayal of professional secrets.

(b) Procuring or aiding, or abetting, in procuring a criminal abortion.

(c) Accepting any fee for advising any patient that a manifestly incurable disease can be permanently cured.

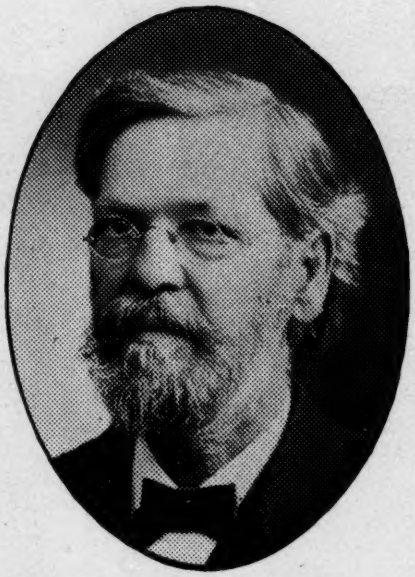
(d) Inserting any advertisement in any newspaper, or pamphlet, or upon any handbill or signboard, referring specifically to diseases or ailments of the genito-urinary or intestinal or uterine organs; or to any medicine or treatment for the regulation or re-establishment of the menses; or to any medicine or treatment for producing an abortion.

(e) Being connected professionally with, or lending his name to any person engaged in the illegal practice of medicine or being connected professionally with any person, firm, or corporation advertising contrary to the provisions of this act.

Any such certificate may be revoked by said Board at any regular or special meeting thereof. Before any certificate of registration shall be revoked pursuant to the provisions of this act, it shall be the duty of the Secretary of said board to give to the holder of such certificate, thirty days' notice, in writing, of the time when and the place where, the said board will meet to consider the question of the revocation of such certificate. Such notice shall set forth, specifically, the charge or charges made against the holder of such certificate, and may be served personally or by registered mail. At the time and place stated in said notice, said board shall proceed to investigate the charges set forth in said notice, and the holder of such certificate shall be then and there entitled to appear personally and by counsel and be heard regarding the truth of such charges. If the said Board of Registration, or a majority thereof, shall determine that the charges so set forth in said notice are truth, such certificate of registration shall thereupon be revoked, and due entry thereof be made upon the records of said board. It shall thereupon be the duty of the Secretary of said board to notify the holder of such certificate of registration of the action taken by said board.

Said board shall have the right to subpoena witnesses upon a subpoena signed by the President of said board and attested by the Secretary thereof directed to such witnesses, and which subpoena may be served by any person authorized to serve subpoenas from courts of record in this state, and the attendances of witnesses may be compelled by attachment issued by any Circuit Court in the state, upon proper showing that such witness has been properly subpoenaed and has refused to obey such subpoena. The person serving such subpoena shall receive the same compensation now allowed by law to sheriffs and other officers for serving subpoenas. Said board shall have power to examine witnesses under oath, such oath to be administered by any member of said board. Any person who shall refuse or neglect to appear before said board, in response to its subpoena, or testify as herein provided, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not exceeding five hundred dollars, or by imprisonment in the state's prison for a period of not more than one year, or by both such fine and imprisonment in the discretion of the Court.

Witnesses subpoenaed pursuant to the provisions of this act, shall be entitled to receive the same compensation as is allowed by law to witnesses in the Circuit Courts of the state. The compensation of witnesses and of the sheriff or other officer for serving subpoenas shall be paid by the Board of State Auditors upon the certificate of the President and Secretary of said Board of Registration in Medicine.



Lyman W. Bliss, M. D.
1835 - 1907

Lyman W. Bliss, M. D.

The funeral of Dr. Lyman W. Bliss, one of the oldest and one of the best known practitioners of the Saginaw Valley, was attended Sunday, February 24th, at the Methodist Church, Saginaw, by a large number of friends, and his body deposited in the vault in Forest Lawn, there to remain until some bright spring day when, according to his request, it will be taken to its final home at Oakwood.

Doctor Bliss went South a short time before his death, hoping to receive benefit to his health, which had been failing, more especially since the loss of his brother, the late Governor, but conditions took an unfavorable change, and the good man died in the hospital in San Antonio, Texas, at eight o'clock in the evening of February 19th, only a few hours after repeating, apparently to himself, while on his way to the hospital,

"We're going down the valley, one by one."

Doctor Bliss was born at Smithfield, Madison Co., New York, July 12th, 1835, receiving his early education there and at Peterboro Academy, New York, followed by a course at Hobart College, Geneva, New York, where he graduated, and later held a professorship, but when the call to the battlefield came, this position was at once resigned, and in 1862 he was with the Army of the Potomac, duly commissioned Assistant Surgeon of the Tenth New York Cavalry, and soon advanced to the position of Surgeon of the Fifty-first New York. He became Brigade Surgeon and Acting Medical Director, and was mustered out of the service August 18th, 1865, with the rank of Major.

In 1866, he came to Saginaw, which has since been his home and where he soon acquired a large and lucrative practice.

Doctor Bliss was married three times. His first wife, and mother of his children, was a daughter of the late Dr. Jerome. She died in this city April 26th, 1872. September 18th, 1877, he was married to Mrs. Harriet (Granger) Miller, who died October 3rd, 1887. November 2nd, 1892, he was united in marriage with Miss May Cummiskey, who survives him. He leaves two children, Dr. James W. Bliss and Mrs. Anna Bittman. A son, E. Stanton Bliss, died April 22nd, 1905. One son died in infancy, July 5th, 1872.

His professional work overshadows everything else, yet he had been identified with several important business interests. For a score of years the firm of A. T. Bliss & Bro., composed of A. T. and L. W. Bliss, was one of the foremost lumber firms of the Valley.

Not a seeker for political favors, yet he was twice Mayor of Saginaw, besides holding aldermanic honors. He was President of the State Medical Society in 1891, and at the Grand Rapids meeting in 1904 he was made an honorary member. In the Bliss Hospital he was a moving spirit, and in the Saginaw Valley Medical College he was an earnest and enthusiastic worker, and its President until it was merged into the Michigan College of Medicine.

He worked until near the time of the summons across "The Great River," and when he said of the Medical Profession,

"It is the hardest, the noblest, the busiest, and the most sacred profession the world has ever known;—the hardest, since it is fraught with dangers, hardships and heartaches; the busiest, since the doctor works day and night, and seven days in the week; the noblest, for though God created man, and Christ redeemed him, the art of healing was given to man himself; the most sacred, since the doctor is the first and last person to enter the home," he spoke not of the profession as he had theorized about it, but as he had practiced it for fifty years.

SIDNEY I. SMALL.

Book Notices

A Text-Book of Diseases of Women.—By J. Clarence Webster, M. D. (Edin.), F. R. C. P. E., F. R. S. E., Professor of Obstetrics and Gynecology in Rush Medical College, in affiliation with the University of Chicago. Large octavo of 712 pages, with 372 text-illustrations and 10 colored plates. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $7.00 net; Half Morocco, $8.00 net.

In the preface, Webster states that, in writing this book, he was actuated by the following aims: "To give prominence to the scientific basis of each subject under consideration;" "to study clinical phenomena in their widest relationships;" "to insist upon exercising caution in the adoption of recklessly advocated procedures;" "to give emphasis to methods which have proved satisfactory in the author's experience." We believe that Webster has succeeded well in carrying out these aims. The book is carefully written and excellently illustrated. It bears the stamp of the author's personality, many of the chapters being more like monographs than portions of a text book. The descriptions are unusually clear, the diction being simple and at the same time scientific.

The work opens with 100 pages of anatomy, the discussion being complete and amply illustrated. Mooted questions are printed in fine type. Chapter III, covering the bacteriology of the genital tract, is an excellent one. Chapter IV, on "Neuroses in Relation to the Pelvic Diseases in Woman," shows the author's breadth of view. In discussing neurasthenia, Webster says: "Operative treatment is necessary in many cases where there is a distinct remediable pelvic or abdominal lesion. But it must be insisted upon that these shall not be placed in the forefront of the therapeutic measures at our disposal, nor shall they be undertaken until the entire state of the patient has been investigated, and every effort made to improve her condition on the lines which I have laid down."

In the description of bimanual examination, the text advocates the use of the left hand on the abdomen and the fingers of the right hand in the vagina. The illustrations reverse this. For obvious reasons, the method as depicted and not as described, should be followed.

The author is an advocate of the Kelly method of cystoscopy, but prefers the Trendelenburg to the knee-chest posture, Discussing specula: "For mere purposes of diagnosis, the gynecologist rarely nowadays requires to use any speculum; it is generally found that the instrument is most used by the practitioner who has had little experience in the diseases of women."

Particular emphasis (none too strong) is laid on asepsis. The author uses clove oil and alcohol for the hands; advocates the dry method of wearing rubber gloves; employs catgut prepared by hardening in formalin and boiling in water; and employs chinosol as an antiseptic (dusting powder, irigations, gauze, etc.).

A particularly good section is that on the management of peritoneal surfaces, drainage, etc. Complications after laparotomy should receive more space.

The affections of the various organs are taken up seriatim and the author's methods clearly set forth.

The book impresses one as being authoritative. It is exceptionally well printed and is a distinct addition to American gynecologic literature.

Organic and Functional Nervous Diseases.—By M. Allen Starr, M. D., Ph. D., LL. D., Professor of Neurology in the College of Physicians and Surgeons, New York; ex-President of the American Neurological Association and of the New York Neurological Society. Second edition, thoroughly revised. Octavo, 824 pages, with 282 engravings and 26 full-page plates. Cloth, $6.00 net; leather, $7.00, net. Lea Brothers & Co., Philadelphia and New York, 1907.

It was only in 1904 that the work on Organic Nervous Diseases, of which this is a second edition, was warmly welcomed by the profession and quickly took its place as easily the peer of any of several excellent works on diseases of the nervous system by American authors.

Professor Starr has the happy faculty of being logical, clear cut, forceful, and impressive, and all of these qualities are likewise in evidence in the work of his pen.

The earlier volume at once took a place which it will not soon lose and a careful comparison of this later book with the former, while it shows a revision of the whole edition here and there, yet reveals no great material change. Indeed, the matter covered by the first edition is here shortened about twenty pages, but the whole is reenforced by an addition of some seven chapters upon the functional diseases, covering the spasmodic neuroses, epilepsy, paralysis agitans and tremor, tetany, neurasthenia and the occupation neuroses, hysteria, and migraine.

The prestige justly attaching to the first edition will not suffer by this second volume, which covers still more completely the field of nervous diseases.

The work of the publishers is in every way excellent and the book is worthy an easily reached place among the much-consulted books.

A Text-Book of Pharmacology.—Including Therapeutics, Materia Medica, Pharmacy, Prescription-Writing, Toxicology, etc. By Torald Sollmann, M. D., Assistant Professor of Pharmacology and Materia Medica, Western Reserve University, Cleveland, Ohio. New (2d) Edition. Octavo of 1070 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, $4.00 net; Half Morocco, $5.00 net.

The second edition of Dr. Sollmann's text book of Pharmacology has been made necessary by the appearance of the new Pharmacopeia and by the advances which have been made in the subject since his first edition was published in 1901. These advances have necessitated practically rewriting the entire book, which at the same time has been enlarged in several of its divisions, so that it now contains an immense store of information of value to the student and investigator.

The short section on Pharmacognosy is followed by some chapters on Pharmacy and these by Toxicology, Prescription-writing and flavoring of medicine. The main section of the book under the title of Pharmacology, Therapeutics, and Materia Medica, covering some 650 pages, composes part two. An extensive laboratory course is provided for in part three, while in part four are treated many subjects of interest in connection with the science, such as, the arrangement of a Materia Medica Museum; bibliographic references, a reference table of chemicals with their formulae, molecular weights and solubilities (from the U. S. P.); dose table, and finally a bibliographic register arranged alphabetically by the authors' names.

This short summary gives an idea of the wide scope of the work and the immense amount of information contained in it. At the same time we think the propriety of including some of these sections might be called in question and give rise to differences of individual opinion. Such sections might be mentioned as that in Pharmacognosy and Pharmacy, these naturally in such a work have to be short and incomplete. The same criticism might also be made of the chapter in "Historical Development of Therapeutics" which could hardly be adequately treated in the 6½ pages devoted to it. The reference table of drugs with their formulae and weights might perhaps be omitted without loss.

Of the material itself it would hardly be necessary to make criticism, as the high esteem in which Dr. Sollmann is held as an authority on the subject would form a sufficient guarantee that a book published by him would represent the best opinion of the day.

All through the book the important points are printed in large type while the minor are in smaller print, making a great saving in the size of the book. This arrangement, while absolutely essential, is not without danger. In the first place the average student will rarely use the fine print, making up his mind it is not important, but what is of more importance sometimes is the difficulty of deciding which sized type to use in an individual case. An important example of this is in connection with the much debated question of the action of strychnine on the heart muscles. On page 148 in large type it is said there is a direct action on the cardiac muscle. Six lines further down the page, the statement is made in fine print that the heart muscle is not affected; while on page 150 it is said the stimulant and later depressant action by strychnine on the heart is seen only when solutions of high concentration are perfused through the heart and that the effect is not concerned in the therapeutic action and probably not in the toxic action. In the light of the later statements one is led to question why emphasis is laid upon it in the earlier sentences.

Under treatment of atropine poisoning we note the author advises that pilocarpine should be given until the mouth is moist. The value of the remedy may be questioned in view of the fact that atropine is so such more powerful in its action than pilocarpine, and also that the danger point in atropine poisoning, vis, the respiratory center, is not affected by pilocarpine. And so it would be possible to go on through the book citing statements which might call forth differences of opinion, but these are inevitable in a science which is as new and growing as fast as Pharmacology. As stated before, it is an excellent reference book for the student and also for the investigator. To the clinician, however, the book would prove a disappointment, if he expects to find in it detailed directions for the use of drugs in practice. This branch of the science, the author says in his preface, should be sepa-

rated from the more strictly scientific side of Pharmacology.

The details for a very complete laboratory course are given, and these may be of assistance in developing such a course, or to an instructor in planning demonstrations.

International Clinics.—Vol. IV., 1906. Edited by A. O. J. Kelly, A. M., M. D., Philadelphia. J. B. Lippincott Company, 1906. Price, cloth, $2.00.

This volume contains 22 original papers by men for the most part well known to the profession. The papers are all good. Several are especially suggestive, notably those on the Treatment of Chronic Constipation, by J. Dutton Steele, on Obscure Renal Hematuria, by Arthur R. Elliott, and on Myxedematous Infantilism and Incomplete Myxedema by Roger S. Morris, formerly of Ann Arbor. Important papers by Dieulafoy on Syphilitic Aortitis and Bernard on the Adrenals are in the section of medicine.

George G. Ross contributes a study of fractures of the lower extremity, excellently illustrated by X Ray photographs. De Lee's "Placenta Previa and its Treatment" is exhaustive and is alone well worth the price of the book.

Atlas and Text-Book of Human Anatomy.—Volume I. By Professor J. Sobotta, of Wurzburg. Edited, with additions, by J. Playfair McMurrich, A. M., Ph. D., Professor of Anatomy at the University of Michigan, Ann Arbor. Quarto volume of 258 pages, containing 320 illustrations, mostly all in colors. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, $6.00 net; Half Morocco, $7.00 net.

It has been said that one must "learn anatomy seven times," or in other words, that one must constantly review the subject in order to keep the details in mind. We know of no better investment of time than that obtained by going over anatomy, and for the average physician, who does not have access to a dissecting room, the study of a good atlas is the best method of review.

The original Sobotta atlas was arranged with text and illustrations separate. McMurrich has included the illustrations with the text and has thus improved on the original.

The nomenclature used is that of the Basle Committee on Anatomical Nomenclature, many of the terms, however, being Anglicized. Whenever these terms are unfamiliar, the old terms are included in brackets.

The illustrations are well nigh perfect. The shading of the black and white drawings is splendid, the third dimension being brought out so clearly that the bones and ligaments stand out in a most natural manner. Multicolor lithography is used for the colored plates and used most successfully.

The press work is the equal of any medical book we have seen.

Atlas and Text-Book of Human Anatomy.—Volume II. By Professor J. Sobotta, of Wurzburg.

The second volume of the Sobotta-McMurrich atlas contains the description and plates of the viscera, including the heart. The latter organ is usually described with the vascular system, but the editor has included it among the viscera, because it is usually dissected at the same time as the other organs—a logical reason, we believe.

The plates showing the mouth, teeth, pharynx and contiguous glands are numerous, especially clear, and uniformly excellent. The section on the development of the peritoneum is very helpful, and taken in connection with the description of the latter, serves to clearly elucidate this region, a concise understanding of which is more or less difficult.

The plates showing the various organs leave nothing to be desired. They are sufficiently numerous to show every detail most carefully.

There is a good index.

The third volume, completing the set, will soon be issued.

Thornton's Pocket Medical Formulary.—New (8th) edition, revised to accord with the new U. S. Pharmacopoeia. Containing about 2,000 prescriptions with indications for their use. In one leather bound volume. Price, $1.50 net. Lea Brothers & Co., Philadelphia and New York, 1907.

This formulary, printed and bound so as to be convenient for the pocket, is a good one. Discases are arranged alphabetically and under each, are prescriptions from which the physician can choose. It had been revised to meet the changes of the new pharmacopoeia. Indications and annotations as to the use of many of the formulae

are given. That such a list of formulae is appreciated is shown by the frequent editions which have been printed.

Conservative Gynecology and Electro-Therapeutics.—A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. Betton Massey, M. D., Attending Surgeon to the American Oncologic Hospital, Philadelphia; Fellow and ex-President of the American Electro-Therapeutic Association. Fifth Revised Edition. Illustrated with chromo-lithographic plates, half-tone plates, and engravings. F. A. Davis Company, Philadelphia, 1906.

It speaks well for conservatism in gynecology that this volume is in its fifth edition. Electrotherapeutics has passed its "fad" stage, and probably has passed that inevitably following stage of comparative neglect, and is now finding its proper level. As an exponent of its merits, Dr. Massey makes no extravagant claims and does not discredit legitimate surgery. But he does constantly inveigh against unnecessary celiotomies and ruthless deletion of the female organs. It is probable, however, that the harmful surgery is done by unskilled gynecologists, rather than by accredited specialists; and in the same measure, electrotherapy works its harm in being practised by tyros.

There is danger in any book which advocates earnestly any one line of procedure; there is danger in a purely surgical treatise and there is danger in this volume, because many readers, lacking in discrimination, will hail the text as a gospel and espouse electricity as their cure-all. In short, individuals will recapitulate the history of the whole profession in a "fad."

The subject in question is undoubtedly well covered. It gives a thorough explanation of the simpler principles of electricity, of its more complex theories as associated with medical therapy, and of the minutiæ of its application. The details of this form of treatment are so infinite as to impress one with the hope that no man will undertake electro-therapeutics without careful training and complete mechanical equipment. It is not a science to toy with, nor to use as an idle placebo, and herein lies its danger.

Profuse illustrations assist the somewhat verbose text, and an interesting table is added of 110 case of fibromata treated by the author with electricity. The index is rather scanty.

Tuttle on Diseases of Children.—A Pocket Text-Book of Diseases of Children. By George M. Tuttle, M. D., Attending Physician to St. Luke's Hospital, the Martha Parsons Hospital for Children and Bethesda Foundling Asylum, St. Louis, Mo. New (2d) edition, thoroughly revised. In one 12mo volume of 392 pages, with 5 plates. Cloth, $1.50, net; flexible leather, $2.00, net. Lea's Series of Pocket Text-Books, edited by Bern. B. Gallaudet, M. D. Lea Brothers & Co., Philadelphia and New York, 1907.

The author states in his preface that this work is intended to furnish an outline for the beginner in the study of pediatrics. The book contains a clear and concise, well arranged exposition of the subject. Special attention has been given to the conditions characteristic of this period. The therapeutics are rational and conservative. It is a creditable and up-to-date work of its kind and can be recommended to anyone desiring such a catalogue of facts.

Text-Book of Psychiatry.—A Psychological Study of Insanity for Practitioners and Students. By Dr. E. Mendel, A. O. Professor in the University of Berlin. Authorized Translation. Edited and enlarged by William C. Krauss, M. D., Buffalo, N. Y., President Board of Managers Buffalo State Hospital for Insane; Medical Superintendent Providence Retreat for Insane; Neurologist to Buffalo General, Erie County, German, Emergency Hospitals, etc.; Member of the American Neurological Association. 311 pages. Crown Octavo. Extra Cloth, $2.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry street, Philadelphia, Pa.

Dr. Krauss's translation of this excellent study of psychiatry by Professor Mendel, from a psychological side, aims to bring to American practitioners and students with as few changes as possible the work of a teacher whose labors in his chosen field have been much appreciated in Germany. The general trend of the work may be gathered from this synopsis: Part I treats of general, and part II of special psychiatry, and under general symptomatology are considered the various disturbances of thought, memory, feelings (sensory and judicial), disturbances in the condition of the mind, disturbances of consciousness and self-consciousness, disturbances of speech, of writing, and of the expression of the countenance, ending with the pathological disturbances in the condition of the body. The etiology of mental diseases is gone into at some length, as also the outbreak, course, duration and result of psychoses, pathological anatomy, diagnosis, prognosis, and treatment.

All of the above might lead to the supposition that this is a ponderous tome, repellent to the busy man with but little time for this sub-

ject, while quite to the contrary it is a neat, compact, and inviting volume, offering in an attractive and scientific form a veritable *multum in parvo* just the book for the shelf of the busy man, who still would be well informed upon a subject quite generally neglected.

The Anatomy of the Brain, a text book for medical students, by Richard H. Whitehead, M. D., Professor of Anatomy in the University of North Carolina. Philadelphia, New York, Chicago. F. A. Davis Company, Publishers.

This little compend by the Professor of Anatomy in the University of North Carolina aims to supply to medical students a clear and concise treatise on this difficult and often (to the student) hazy subject. It takes up successively the divisions of the encephalon, its surface anatomy and internal anatomy and, finally, its conducting paths.

A uniform nomenclature is adhered to, and the terms recommended by the German Anatomical Society inserted whenever possible. It will not attract the careless or the superficial student, but it will prove a help and a convenience to the earnest student, who wishes to ground himself well and have a clear and scientific conception of the anatomy of the brain.

County Society News

BENZIE.

At the last meeting of the Benzie County Medical Society it was unanimously voted to charge not less than $1.00 for examinations for fraternal beneficiary societies and to make no examinations for old line companies for less than $5.00. It was also voted to charge $1.00 extra for all visits made between 9 p. m. and 7 a. m.

Although our society is small it is in a very lively condition.

E. J. C. ELLIS, Sec'y.

CALHOUN.

The Calhoun County Medical Society met for its first quarterly session of 1907 on March 5th, in Albion. The program consisted of a paper on "Infant Mortality" by H. M. Rich of Detroit, "Milk Analysis" by A. W. Nelson of Battle Creek, and the exhibition of a device for application of plaster cast in case of spinal or hip disease, by A. J. Abbott, of Albion. The committees of the society are as follows: Scientific Work and Program, A. S. Kimball, Geo. Hafford, A. W. Nelson; Ethics and Grievances, W. C. Marsh, S. K. Church, H. E. McLennan; Public Health and Hygiene, W. H. Haughey, L. S. Joy, A. J. Abbott; Epidemics and Endemics, C. G. Vary, E. L. Eggleston, R. C. Stone; Medical Jurisprudence, A. W. Alvord, J. C. Brown, Wilfrid Haughey; Necrology, A. D. Bangham, W. H. Riley, G. B. Gesner.

A. S. KIMBALL, Sec'y.

GRAND TRAVERSE.

At a recent meeting Dr. E. B. Minor read a paper on Scarlatina. Dr. Minor said in part:

Patients having recent wounds, or having undergone operations of trivial or major importance and women in childbed are unusually susceptible and are almost sure to contract scarlatina if exposed. * * * The majority of cases are produced by contagion, through clothing, air, food, or domestic animals and contagion gains entrance by being inhaled or through the alimentary tract or by the blood directly, as children have been born in all stages of the disease. * * * The incubation period is short * * * and the invasion is usually abrupt. There are clinical types in which all premonitory symptoms are absent, the only one being a slight eruption and right here let me say that this extremely mild form may be the source of very malignant types, as I have many times seen. These mild cases are the most dangerous to the public, as it often happens that the physician has not been called until the period of desqumation, or perhaps not at all. * * * The diagnosis may be made by the sudden onset of symptoms after exposure, the blush on phyranx and tonsils, the strawberry tongue, the higher temperature and early appearance and distribution of the rash. * * * Complications are to be feared if the fever persists after the rash fades, and of these otitis is a frequent one in young children, especially in the winter months, synovitis, and the dreaded nephritis. * * * The treatment: The patient should be isolated and kept in strict quarantine until desquamation is complete. * * * Diet should consist of milk, broths and fruit juices and the drinking of copious amounts of water should be encouraged.

The urine should be examined frequently. * * * Hydrotherapy is an essential part of the treatment. Encourage eruption by hot water or hot lemonade and warm baths—three to four each day. Inunctions may be used early in the disease to allay itching and later to prevent diffusion of scales. Much attention should be given the nose and throat: an atomizer should be used with some warm alkaline antiseptic. Careful removal of these secretions and attempts at disinfection of nose and throat will prevent ear difficulties." * *

Drs. Garner, Chase and Holdsworth reported cases.

M. M. CANAVAN, Sec'y.

GRATIOT.

The first quarterly meeting of the Gratiot County Medical Society was held at the Alma Sanitarium, Feb. 28th, and was fairly well attended.

Dr. C. B. G. de Nancrede of the University of Michigan, read a very instructive paper, "Chronic Cholecystitis, with or Without Calculi, a Surgical Disease."

Dr. de Nancrede, while discussing his subject from a surgical standpoint, nevertheless impressed the general practitioners with the danger of delay, as many of us are wont to do.

Dr. I. M. Brainard, of Alma, read a paper on "Opsonins and Bacterial Vaccines," written by E. M. Houghton, M. D., Detroit.

Dr. J. N. Day, of Alma, read a paper on "Anuria and Oliguria."

After adjourning, the society was served lunch by resident physicians.

The officers of the society are: President, Edgar A. Bagley, M. D., Alma; vice-president, Chas. S. Watson, M. D., Breckenridge; secretary-treasurer, W. F. McClinton, M. D., Alma.

N. F. MCCLINTON, Sec'y.

HOUGHTON.

The following letter and pledge have been sent to every physician registered in Houghton county:

WHEREAS, Many of the Life Insurance Companies have notified their Medical Examiners of a reduction of the Examining Fee from $5.00 to $3.00, and

WHEREAS, We as physicians, realizing the responsibility incident to proper examination of the individual, believe such reduction to be unjust, therefore be it

Resolved, That the Houghton County Medical Society, by motion carried, respectfully requests all physicians, in and out of the Society, legally authorized to practice medicine in Houghton county, to sign the enclosed pledge.

Said pledge not to be rendered binding unless signed by every member of the Houghton County medical profession.

As soon as every pledge has been returned to the Secretary of the County Society, properly signed and witnessed, printed forms announcing the stand taken will be mailed the physician for forwarding to the insurance companies.

Pledge.

I hereby pledge my word of honor and support, not to make any Life Insurance Examinations for so-called Old Line Companies involving insurance to the amount of $1,000.00, for less than $5.00.

Examinations involving insurance to the amount of $500.00 or less, $3.00, or when urine examination not required, $2.00.

And all Benevolent or Protective Associations or Societies involving any amount of insurance for less than $2.00.

.....Houghton Co., ...1907

Witness:

..... Signed.....M. D.

(This Pledge to be in force only after every Physician legally authorized to practice medicine in Houghton County, has made a similar Pledge.)

C. W. YARRINGTON, Sec'y.

LENAWEE.

The regular meeting of the Lenawee County Society was held February 12, 1907. The program consisted of an address by the new president, Dr. D. L. Treat; a paper on the "Non-Operative Treatment of Diseases of the Female Pelvis," by Dr. O. Whitney; Dr. A. W. Chase read a paper on "Professional Courtesies from a Business Standpoint." Dr. Kirkpatrick presented two very interesting cases of senile gangrene.

The society now has the largest membership in its history and there is much enthusiasm.

The officers are: President, Dr. D. L. Treat;

vice president, Dr. O. N. Rice; secretary-treasurer, Dr. J. C. Johnson.

J. C. JOHNSON, *Sec'y.*

MIDLAND.

At the last meeting of the Midland County Society, the following officers were elected for the year 1907: President, Dr. J. H. Johnson, Midland; vice-president, Dr. E. J. Daugher, Midland; secretary and treasurer, Dr. G. Sjolander, Midland; delegates, Dr. J. M. Johnson; alternate, Dr. E. J. Daugher.

Dr. W. H. Brock was appointed to see to the programme for our meetings during the year and the first subject taken up will be "The Physician, His Own Microscopist," by Dr. C. O. High, of Coleman. It was also decided at this meeting that the physicians belonging to this society shall charge not less than two dollars for an examination for an insurance in fraternal societies and not less than five dollars for old line insurance.

G. SJOLANDER, *Sec'y.*

TRI-COUNTY.

The Tri County Medical Society has rented rooms to be fitted as a laboratory and as a place for study, and the physicians of Cadillac have given up two nights of each week for investigation.

The physicians of Wexford county have agreed to do the county poor work for $1,000 per year and this sum is to be paid to the treasurer of the society for the support of the society.

We had a good meeting Thursday, March 7, at which we endeavored to carry out Dr. McCormack's line of work. A committee has been appointed to purchase lanterns for showing specimens, also a manikin and a blackboard.

The delegates to the state convention are Dr. Wallace of Manton and Dr. Wardell of Cadillac.

W. J. SMITH, *Sec'y.*

Correspondence.

To the Members of the Medical Profession in Michigan.

The reported interviews with certain Detroit physicians appearing lately in the papers again brings up an old discussion, if we may call such a one-sided contention by that name. It is the proposition of transferring the work of the seniors in the Medical Department of the University of Michigan to Detroit, or perhaps more correctly speaking, the question of amalgamating the Medical Department with the Detroit College of Medicine.

That some of the promoters of the scheme are honestly, though inadvisedly, I think, advocating this change as a means of benefiting both institutions and the profession generally, I do not question. However, the subject is revived with such unseemly contumacy that one can hardly take it for granted that it is the noble sacrifice, on the part of certain interested individuals that they would have us believe, nor does it appear unreservedly "in the interests of the State University and for the advancement of the medical profession."

In all this public agitation the medical faculty at the university has been shown so little common, let alone professional, consideration, that it is a matter of surprise that the voice of protest has not sooner been raised.

It may be entirely proper and courteous to belittle one's colleagues in the daily press and to heap odium on a great institution by publicly expressing unfounded opinions, or by misstating facts, but there are a few humble practitioners about the state who haven't advanced so far in the principles of medical conduct that they can appreciate the fine civilities exhibited by certain so-called "leaders of the profession." The public insinuation of one Detroit surgeon that the Ann Arbor physicians are inexperienced theorists is so inane as to need no comment. It merits only the presentation of an edition de luxe of the Ethics of the American Medical Association to the man who made such utterances.

The advocates of the change advance the argument that the clinical advantages in the Detroit hospitals are greatly superior to those at Ann Arbor. Such an abstract statement is easy to make, but if the enthusiasm of the supporters of the proposition will permit them to pause and inform themselves that a large proportion of the patients in the available Detroit hospitals are private cases, whereas every patient admitted to the University Hospital, from the time of entrance until discharge is *used* for clinical instruction, they might be brought to admit that, in the comparison, unjuggled figures will not show the University Hospital to suffer unbecomingly.

It may not be generally known that senior students at Ann Arbor spend practically all their time at clinical work in the hospital, and have unbounded opportunity to follow up their patients, observing, diagnosing, and treating cases themselves. Again, with the University Hospital system, students can be summoned in a few minutes, day or night, to witness emergency surgery, obstetrical operations, and disease complications. Not long ago a prominent surgeon told me that during his medical course in one of the largest American cities he did not see a single accident case, not because there were no cases, but simply for the reason that he could not be quickly summoned. That Ann Arbor is a small town is hardly an argument in favor of the proposed change. Except for the acute infectious diseases, the cases in the University Hospital are drawn largely from a wide territory, and, if memory does not badly fail me, a considerable percentage are from Detroit. It has been most convincingly demonstrated by a graduate of the University of Michigan, whose name needs no mention to identify him, that it does not require a populous community to establish a clinic of considerable proportions.

Conceding, however, that it would be to the advantage of the Medical Department to conduct a certain part of the work in Detroit, the advocates of the movement should enlarge their views to meet the requirements. It would necessitate talking in millions instead of in thousands. The Board of Regents, presumably after giving the proposal thorough consideration, do not feel justified in making any change under present conditions. Therefore, if we agree that it would result in the improvement of the standards of medical education in the state, to have only one medical institution, let us consider no personal conveniences in the matter and without disparagement of the faculties, the alumni, or the students may we unite to secure a real university medical department and not any temporary makeshift. The state and interested patrons can support the best, and we don't want to make apologies for lack of advantages, clinical, theoretical, or ethical, to any medical institution in the country.

C. G. Parnall, M. D.

Jackson, Mich., March 10, 1907.

Ann Arbor, Mich., March 1, 1907.

To the Medical Profession of Michigan.

At a recent meeting of the physicians of Washtenaw County a resolution was unanimously passed requesting our representative, Hon. H. Wirt Newkirk, to ask our state legislature to amend the present law relative to the registration and return of births, so that for every and each complete return, the physician or other person so reporting shall receive the nominal fee of fifty cents. May we ask for your immediate and vigorous co-operation for the amendment of this law during the present session of our legislature. We desire also to ask you to urge this matter upon your representative at Lansing, either by letter or personal interview, or both.

Respectfully,

(Signed) I. D. Loree,
Pres Washtenaw Co. Med. Soc.
John William Keating,
Sec. Washtenaw Co. Med. Soc.
J. A. Wessinger,
Mem. Mich. Aux., National Legislative Council.

News

Dr. Alden Williams, secretary of the Kent County Medical Society, is in Berlin. Dr. F. C. Warnhuis, the treasurer, will fill the vacancy until Dr. Williams' return.

Dr. H. B. Ashton, of Traverse City, has been spending the winter in Virginia.

Dr. J. L. Boyd, formerly of Rapid City, has located in Traverse City.

Dr. Strangways, of Traverse City, has discontinued the practice of medicine and gone into the lumbering business.

On Thursday evening, March 14, a meeting of Detroit physicians was held to consider the matter of obtaining property for a medical building. A proposition, previously approved and subscribed to by numerous representative men, was advanced to raise money by subscription, purchase land, and erect a building, with suitable rooms for medical meetings, a library, and renting space on the ground floor. From the rentals obtained, both of ground floor and of the medical meeting hall, the expenses of the building could be defrayed. The scheme includes the idea that the Wayne County Medical Society shall use the hall, at a nominal charge for rent, and that ultimately the building shall pass into the hands of

the society as the stock is retired. A committee was appointed to consider the matter and report at a later date.

Dr. M. S. Gregory, who removed from Traverse City last September and spent several months in practice at Mt. Pleasant, is again located in Traverse City.

The city council of Saginaw recently enacted an ordinance requiring that no medical samples shall be distributed unless the distributor has been issued a license. The health office will refuse permits on applications which do not contain an analysis of the medicine to be distributed.

Epidemic diseases have recently prevailed in Michigan towns as follows: Smallpox in Centerville, 20 cases; scarlet fever in Holland; measles in Marshall, Munising and Allegan; scarlet fever in Alma, requiring closure of public schools.

Dr. Dayton Parker, of Detroit, has been appointed to the State Board of Correction and Charities; W. A. Dohany, of Detroit, to the Board of Pharmacy, and Dr. V. C. Vaughan, of Ann Arbor, to the Board of Health.

Dr. A. E. Weed, formerly of North Branch, has located in Columbiaville.

Several Detroit physicians, on being interviewed by newspaper representatives, have declared that the noise of street cars has a perceptibly unfavorable effect upon sick patients.

Dr. Romeo H. Earle, on service at the Wayne County House, has gone to Hot Springs to convalesce from blood-poisoning, contracted during an operation.

Dr. J. W. Cooper, of Grand Rapids, has removed to Jones, Oklahoma.

Five members of one family in River Rouge contracted smallpox and had been ill three weeks without being reported by their physician to the board of health and without any precautions for quarantine.

Dr. E. J. Barbee, of Houghton, has gone on a trip to Texas and California on account of ill-health.

Dr. E. W. Haas has been appointed to succeed Dr. C. G. Jennings on the Detroit Board of Health.

Dr. R. D. Sleight has returned to Battle Creek after a foreign journey of several weeks.

Dr. W. A. Chapman, of Ludington, about to remove to Seattle, Wash., has sold his practice and equipment to Dr. E. George Gray.

Dr. Guy M. Dunning, of Lansing, has returned from a five months' trip abroad.

Dr. D. G. Austin, of St. Johns, has sold his residence and practice and will remove to Colorado for the benefit of his wife's health.

Dr. A. H. Steinbrecher, of Detroit, has returned from a several months' trip abroad.

Dr. and Mrs. C. W. Hitchcock, of Detroit, are in England.

Dr. E. L. Shurly, of Detroit, sailed for home April 6th.

Deaths

Lyman W. Bliss, M. D., of Saginaw, died suddenly from heart disease in San Antoino, Texas, Feb. 19, aged 70. Details are noted elsewhere in the Journal.

Dr. J. G. Reinberg, of McBain, died Feb. 22, 1907, aged 62 years. Cause of death, typhoid pneumonia. Member of the Tri-County and State Societies.

Visiting Nurses' Association of Detroit.

At the annual meeting of the Visiting Nurses' Association, held March 14th, announcement was made of the appointment of a special nurse for tuberculosis patients.

A special nurse for tuberculosis cases was appointed March 1 and as the need for more nurses arises more will be supplied. Another special nurse was appointed for post graduate clinic work and another in the schols. The school nurses' visits have resulted in great good and have the indorsement of the school board, teachers and parents. The visiting nurses made 8,871 visits during the last year exclusive of the work of the three special nurses. This is an increase of 500 visits over last year, which is only one indication of the rapid growth of the nurses' work.

Besides the James E. Scripps bequest of $1,000, there have been generous donations of milk, eggs and other food suite dfor tuberculous patients. Tents and various equipments for preventing the spread of contagion have been among the gifts.

The officers elected are: President, Mrs. A. W. Diack; vice-president, Mrs. Lucian S. Moore; secretary, Miss Mary B. Mumford.

Progress of Medical Science

MEDICINE

Conducted by

T. B. COOLEY, M. D.

Functional Albuminuria in Athletes.—Collier has observed for a number of years that a large proportion of the young men at Oxford who wished to take part in athletics showed pronounced albuminuria after exercise, though the morning urine was free from albumin. It was formerly his habit to dissuade these men from violent physical exertion, on the supposition that the condition indicated an insufficiency of the renal blood vessels. A number of the men consulted well-known specialists, who invariably concurred in this view, and insurance examiners usually refused such subjects. The observation that such men as disregarded his advice and went in for rowing, running, etc., were not in the least injured thereby; that treatment had no effect in the condition, and that such patients as he was able to follow up later in life ultimately showed spontaneous cessation of the albuminuria, led Collier to undertake systematic examinations of the college athletes, to determine the frequency of albuminuria. He found that in more than 50 per cent of the oarsmen, after the ordinary training exercise, the urine showed considerable amounts of albumin with the cold nitric acid or heat and acetic acid tests, while after severe rowing every member of the crew showed it. A smaller number of the runners was examined, but the findings were the same, with the albuminuria rather more marked than in the oarsmen. He was unable to find that any of these men suffered any definite injury from their indulgence in athletics, and the albuminuria after exercise was not found in those whom he had the chance to examine later in life. An inquiry into the after-health of 294 men who had formerly taken part in the inter-university boat race showed that their chance of long life was better than that of the average man, although it is to be assumed that the percentage of functional albuminuria was as high in them as in those examined.

Collier concludes that albuminuria in a young man, after severe exercise, if it be not present after sleep or meals, is not an indication of weakness or disease, and that insurance companies are wrong to reject such candidates.—*Brit. Med. Jour.*, Jan. 5, 1907.)

Influence of Excessive Meat Diet on Fertility and Lactation.—Watson believes that the falling birth rate in England and the increasing inability of women to nurse their children may to some extent be due to the increasing tendency to excessive meat eating. To determine the effect of such a diet on animals he experimented with rats, using one set of animals fed exclusively on meat and a control set fed on bread and milk, the other conditions being the same throughout. Of twelve females fed on bread and milk all conceived and bore young during the experiments, while only 9 out of 13 fed on meat became pregnant. The weight of the mammary tissue in the animals in each set who had born young was determined by killing the animals and carefully stripping off this tissue. It averaged about 1/6 less in the meat-fed animals. The average weight of the young of the meat-fed rats at 20 days was about ¼ less than that of the young of those fed on bread and milk.

Watson thinks the possibility suggested by these observations calls for further study along similar lines.—*Brit. Med. Jour.*, Jan. 26, 1907.

Bier's Hyperemia in Sea-Sickness.—Roesen was led to make a trial of passive cerebral hyperemia in seasickness by his observation, while serving as ship's physician, of the effect of the hyperemia induced by hot applications and by posture. He reports results obtained upon himself and several passengers. In every case the bandage, properly applied, brought marked relief from the depression and nausea, so long as the stomach was empty, but did not prevent vomiting when food was taken. He adds that it would not do for parties to apply the bandage themselves, as it is important to get just the right degree of compression.—*Munch. med. wochensch*, Feb. 12, 1907.

Scurvy from Anti-diabetic Diet.—Jones reports a case of severe scurvy, resulting from twenty-one months' adherence by a diabetic to a very rigid diet, composed almost entirely of fresh-cooked meat and eggs, with the occasional addition of fish and toast or diabetic bread, but no fresh vegetables. Cure was quickly effected by the addition to the diet of such fresh vegetables as the diabetic may take, and there was no return of glycosuria.—*Brit. Med. Jour.*, Jan. 26, 1907.

SURGERY

Conducted by

MAX BALLIN, M. D.

Sarcoma of the Long Bones.—The majority of surgeons all recommend amputation in all cases of sarcoma of the long bones. COLLEY, who had a personal opinion of sixty-nine cases of sarcoma of the long bones, believed that resection of the diseased part should be employed in a much larger number of cases, particularly of the myeloid type in the radius and tibia, and the results obtained by v. Mikulicz and others, principally German surgeons, seem to justify such a change of attitude. Coley believed also, that the use of the mixed toxins of erysipelas and bacillus prodigiosus after operation will greatly widen the limits within which the operation of resection may be safely employed.

The use of the toxins is no longer in the experimental stage. If we could offer the patient reasonable certainty of life by amputating the limb, there might be some ground for hesitating to try the toxin treatment before amputation; but, in the face of our inability to save the life of the patient except in a very small minority of cases, Coley feels that we are risking little in giving the patient the benefit of a brief trial with the mixed toxins. A period of three to four weeks will almost always be sufficient to determine the probable success or failure of the treatment. If a tumor continues to increase in size during this period, then Coley would not prolong it to the full four weeks, but would amputate at once, and then as soon as practicable continue the toxins as a prophylactic against recurrence. With this important exception, Coley limits the use of the toxins to inoperable sarcoma. Coley has thirty-six cases of inoperable sarcoma, in which the toxins have been used with success during the past fourteen years. Twenty-six of these cases were well and free from recurrence from three to thirteen years; twenty-one from five to thirteen years. Of sixty cases successfully treated by other surgeons, twenty-seven were alive and well from three to twelve years, which is sufficient refutation, Coley thinks, of the statement occasionally made, that the method has been successful only in the hands of its author.—*Annals of Surgery*, March, 1907.

Statistical Results of Operations for Cancer of the Breast.—The result of 320 cases of cancer of the breast operated on in the University Clinic of Breslau, from 1890-1900, are given as follows: eight died from immediate effects of the operation (three from pneumonia, two from sepsis, one from pleuritisg, two from collapse). Two of the eight fatal operations were secondary operations; hence, the mortality from operation is only 2.71 per cent.

As to permanent cures, SCHEU divides his cases into four groups: first; cases in which no infection of the axillary glands could be proved; second, in which the axillary glands were found infected by microscopical examination after the operation; third, cases in which the axillary glands could be felt swollen before operation, but there was no infection of the supra and infraclavicular glands; fourth, cases where, before the operation, infected clavicular and cervical glands could be felt. From the first group 29 patients could be observed for years; of those, 13 were permanently cured; 16 had return of the cancer. Of the second group, twelve were under observation long enough to be considered as to ultimate results. Of these twelve, three were cured, nine had return of cancer. Of one hundred and sixty-four cases of the third group, thirty were cured, one hundred and thirty-four suffered or had died from return of the cancer. In the fourth group belong forty-six cases with forty-five failures, that is, death from return of the cancer. The cases considered cured, were observed at least three years after the operation. One, more than fifteen years; five more than fourteen years, etc. The lesson is obvious: early operation gives the best results (44 per cent cures in group one, 24 per cent in group two, 15 per cent in group three, 1 per cent in group four).

The best method for permanent results is the most radical, removal of breast, pectoral muscles, axillary fat and glands.—*Mitteilungen aus der Grenzgebieten der Chirurgie und Medicin. Third Supplement in Memory of J. von Miculicz*, 1907.

Technique of Narcosis.—STRAUCH used for years the following method of Narcosis: On the evening before the operation, the patient receives 1 gram (16 grs.) veronal. One hour before the operation 0.015-0.025 (¼-⅓ gr.) of morphine is injected hypodermically and at the same time an enema of whisky is given. For the narcosis proper, ether is administered by the drop method. Author claims that this method has several advantages. The veronal causes a good restful sleep the night before the operation, so that there is no nervous excitement of the heart. Veronal plus morphine plus alcohol reduce to a minimum the quantity of ether necessary for surgical narcosis. The patient usually rests quietly for from twelve to eighteen hours after the operation. The large dose of 15 grs. veronal was never followed by any bad symptoms.—*Zentralblatt fuer Chirurgie*, No. 9, 1907.

GYNECOLOGY.

Conducted by

W. H. MORLEY, M. D.

The Radical Abdominal Operation in Carcinoma of the Cervix Uteri.—Wertheim describes his well known operation for removal of the pelvic glands in cancer of the uterus. His technique is in brief as follows:

1. Careful treatment of the cancer per vaginam by curettage and by burning with Paquelin cautery.
2. Opening of abdominal cavity by median longitudinal incision and division of posterior layer of broad ligament in order to expose the ureters.
3. Separation of bladder from the uterus.
4. Ligation and division of the infundibulopelvic, the broad and round ligaments.
5. Ligation and division of the uterine vessels.
6. Isolation of both ureters.
7. Separation of rectum from vagina, completing the isolation of the carcinomatous organ.
8. Removal of the diseased uterus by dividing the parametrium as closely as possible to the pelvic wall and by separating the uterus from its vaginal attachment.
9. Removal of all enlarged lymph glands along the iliac vessels upwards as far as the aortic bifurcation and downwards to the obturator foramen.
10. Treatment of the raw surfaces by covering in loosely with iodoform gauze, whose lower end extends out through opening into the vagina.
11. Suturing the anterior and posterior flaps of the visceral peritoneum over the gauze drain.
12. Closure of the abdominal wall.

The after-treatment is relatively simple. The gauze drain is removed gradually on the fifth day so that by the tenth the drain is entirely removed. Some trouble may be experienced with the bladder in these patients but such trouble usually clears up when the patient leaves her bed. Uretero-vaginal fistulae may develop a few days after the operation due to secondary necrosis of the ureter. They may heal spontaneously after cauterization with iodine or a nephrectomy must be performed—an operation Wertheim prefers to implantation of the ureters in the bladder. This complication has occurred only once in the author's last fifty cases. As the technique of this radical operation becomes more familiar, one should seldom if ever experience this complication.

The duration of the operation varies directly with the skill of the operator, his knowledge and perfection of the technique. One should not require more than one and one-half hours for the most difficult cases. The mortality at first was large (15 to 18 per cent) but at present Wertheim has succeeded in reducing it to 8 per cent. The cause of death was rarely due to infection or peritonitis; the great majority were the so-called heart deaths. (Emboli.) Prolonged anesthesia may be avoided by doing the preliminary vaginal work without anesthesia. The author has also had good success with spinal anesthesia.

Microscopical examination of the lymph glands disclosed many interesting characteristics. Serial sections were made of a large number of these glands and they were subjected to careful microscopical examination. In twenty-eight per cent of the cases the vaginal lymph glands were found to be carcinomatous. In numerous instances enlarged glands were found to be entirely free from carcinoma. Those glands removed from the regions between the external and internal iliac arteries and in the neighborhood of the obturator foramen proved to be carcinomatous to an advanced degree.

The recurrences occur in the lymph glands and after five years, sixty per cent of the patients operated on remained free from recurrence. The author makes the statement that this extensive freedom from recurrence is a positive point in favor of the abdominal route, and comes to the following conclusions in this regard:

1. That these extensive vaginal operations are more difficult than extensive abdominal ones.
2. That today there is no difference in the mortality of the two operations.
3. That, in spite of all skill and technique, the vaginal operation does not permit the removal of the parametrium as the abdominal.
4. That the vaginal operation by no means permits the removal of the glands which lie on the iliac vessels.—*Surgery, Gynecology, and Obstetrics*, Vol. IV, No. 1.

PATHOLOGY AND BACTERIOLOGY

Conducted by

A. P. OHLMACHER, M. D.

Malignant Endocarditis Successfully Treated by Artificial Autoinoculation.—Under the fully-descriptive title "A Case of Infective Endocarditis Cured by the Inoculation of a Vaccine Prepared From Organisms Found in the Patient's Blood, the Inoculation Being Regulated by the Examination of the Opsonic Power of the Patient's Serum," the most noteworthy communication thus far made to the rapidly increasing literature attesting the remarkable efficacy of opsonic therapy is presented by BARR, BELL, and DOUGLAS.

The patient, a young woman of 25, was originally under the care of SIR JAMES BARR and DR. W. BLAIR BELL; later Sir A. E. Wright was called in consultation and directed the treatment by the inoculation method, the details of which, including the twice-daily taking of the opsonic index, were carried out by Wright's associate, CAPTAIN S. R. DOUGLAS. On Jan. 13, 1906, the first clinical observation was made, the young woman reporting that on Jan. 5, while staying in the country, she had contracted a slight sore throat accompanied with some vomiting; Jan. 8 she felt shivery and ill, and on the 12th a swelling appeared on the left side of the neck. The swelling, probably a periadenitis, disappeared spontaneously in three days. On Jan. 13 the temperature was 105° F., and continued so for three days. Nothing abnormal was found in the heart at this ealy stage. Beginning Jan. 16, antistreptococcic serum in 10 cubic centimeter doses was injected, to be repeated daily or once in two days till the 28th, with no appreciable result. The temperature ranged from 90° to 104°. Rigors were frequent. After about a fortnight, symptoms of endocarditis of the right ventricle were detected; these gradually became more pronounced; there was dilatation of tricuspid orifice accompanied by a slight murmur, and pulsation in the veins of the neck, and in the liver, which became large and rather tender. After the rigors, which occurred frequently, there was a troublesome cough, with a little scanty mucous expectoration. The left ventricle was not enlarged, and there was no enlargement of the spleen. The urine at this time was simply febrile urine, but later it contained a cloud of albumin. On Jan. 26th a small abscess was formed in the foot and the pus showed the presence of a streptococcus in short chains. Cultures made from swabs from the throat and nose threw no light on the matter. Attempts to make cultures from the blood proved futile. On Feb. 2d the patient complained of pain in the right side. This was the commencement of a slight pleurisy, during which some effusion occurred, but which gave rise to no serious trouble. On Feb. 12 a pure culture of streptococcus was obtained from a specimen of blood withdrawn at the commencement of a rigor. This culture was sent to Sir A. E. Wright and from it a vaccine was prepared. On Feb. 22d the first dose of vaccine was injected after the opsonic index had been examined and found to be 0.4.

After an inoculation of 10,000,000 dead streptococci, the opsonic index rose without any appreciable negative phase in eight hours to 1.4 and remained above the normal for the three following days. During this period the mean daily temperature shows a marked fall. On the opsonic index reaching the normal line another inoculation was given, the dose being 12,500,000. This inoculation was followed by a very slight negative phase, after which, however, the index rose rapidly to 2.1, to fall with equal rapidity to 1.3 on the third day after inoculation. In order to keep the index above the normal as long as possible, another inoculation was given, the same dose as the last; and as but a slight negative phase had been produced, this dose was repeated the next day. On March 3d (the day following the inoculations) the index was normal, but rose rapidly to 2.4, keeping above the normal line for the next six days. The mean daily temperature, which up to March 2 had steadily fallen, rose, reaching the level occupied before inoculation was commenced.

On March 5th it was, however, noticed that a thrombus was commencing to form in the left iliac and femoral veins. To prevent the spread of the thrombus and to secure, if possible, the shrinking of the clot, large doses—from 30 to 60 grains—of citric acid were given every four hours. This treatment was so successful, apparently, that there was at no time any marked degree of edema in the limb affected. Coincidently the temperature again dropped. A further inoculation of 12,500,000 was given on March 8, as the opsonic index had dropped to 0.7. On March 11 the index had risen to 1.39, when another similar dose was given. This caused a slight negative phase, but the power quickly rose to 2.0 on March 14, on which day a further inoculation of 6,000,000 was given. This caused a very distinct fall in the opsonic index and unfortunately a dose of 6,000,000 was again given on the 16th, which caused the index to drop below the normal line and the temperature, which had remained normal for 24 hours, to rise above 105° for a short period. This return of fever was, however, only temporary, for with the rise of the opsonic index the temperature again became normal and there was no further rise.—*Lancet*, 2-23-'07.

PHARMACOLOGY AND THERAPEUTICS

Conducted by

C. W. EDMUNDS, M. D.

Treatment of Uremia.—On the theory that uremia is produced by a toxin, LeFevre advises venesection as the most rapid method of aiding elimination and at the same time of lowering the arterial tension, which is frequently very high. Other measures having the same object in view are the use of means to promote free diaphoresis. For this, hot packs may be used, or hot vapor baths, or, perhaps best of all, electric light baths. Pilocarpine used carefully may cause a diminution of the symptoms. To aid elimination by the intestine, colonic irrigation may be used. On account of the vomiting which is frequently present, the saline cathartics may not be retained, but the compound powder of jalap in dosage of ¼ to 1 drachm is usually well taken. Elaterium 1-10 to 1-6 grain or elaterin in the same dosage may be given every three or four hours until free catharsis is produced. Many believe the mercurials to be the most beneficial of the cathartics, but care should be taken to see that free catharsis is produced, as otherwise in chronic nephritis salivation from the absorbed mercury is very likely to follow.

To secure free diuresis is sometimes difficult, as in uremia there often seems to be a direct inhibition of the kidney. The members of the caffein series are best tried and they often act better if given in connection with some of the members of the digitalis group.

The uremic convulsions are best controlled by the use of chloroform and chloral. If it is desirable to lower the arterial pressure rapidly, recourse may be had to venesection, or to free catharsis by croton oil. The action of the nitrite series is quite transient.—*British Med. Jour.*, No. 2395, p. 1449.

Trypsin Treatment of Cancer.—Graves has used the remedy in four cases of inoperable carcinoma of the breast and gives his conclusions of the value of the method of treatment as follows:

First, a discreet cancerous node, systematically attacked by injections of trysin, shrinks, becomes hard and fibrous, and disappears.

Second, neighboring nodes are little, if at all, affected, and are probably influenced only when trypsin comes into actual contact with the growing cells.

Third, the treatment of a given node, causing it to shrink and disappear, does not prevent the appearance later of another node in immediate proximity to it.

Fourth, there is no evidence that trypsin affects cancer cells by circulating in the blood, or that it affects them in any way other than by actual contact.

Fifth, the internal administration of the ferment in cachectic patients apparently did some good, but probably only through its action on digestion.

Sixth, clinically and microscopically the evidence obtained is sufficient to warrant a continuation of the treatment in operable cases, especially as no serious results are likely to follow.

Graves used the injectio trpysini of Fairchild, beginning with ten minims of the undiluted solution, which was increased after two or three administrations to 40 minims three times a week. The dosage and frequency of treatment must be determined by the severity of the local and general reaction.—*Boston Med. and Surg. Jour.*, Vol. CLVI., p. 129.

Treatment of Some Forms of Acute Cardiac Dilatation.—Beverly Robinson considers especially the treatment of those forms of acute dilatation which occur after the acute infections. In the dilatation which occurs after rheumatism he recommends the salicylates and sodium bicarbonate, together with blood-letting and the application of the ice bag. When dilatation occurs in pneumonia, he prefers a local blood-letting by means of leeches or wet cups. He thinks this method is more effective and relieves symptoms of distress and oppression sooner than venesection. With pulmonary obstructions and a dilated right heart he recommends the vaso-dilators, as nitroglycerin, and says digitalis is to be avoided. Digitalis may, however, be used after venesection, or where the heart as a whole is affected by the toxemia.

In acute dilatations following diphtheria, besides heat to precordium and extremities, strophanthus may be given with ammonia and brandy. For a complete cure, prolonged rest and suitable tonics, such as strychnine, are necessary; country air, good food, with bodily and mental rest, being very important. Influenza is frequently followed by cardiac dilatation, and this is best treated by a change of air and absolute rest. An ocean voyage will often prove very beneficial and to this may be added the advantages of the Nauheim treatment abroad. If such a line of treatment cannot be carried out, Robinson advises the artificial Nauheim baths, together with resistant movements carefully carried out. In some cases the prolonged use of small doses of digitalis is curative.—*Am. Journ. Med. Sc.*, Vol. CXXXIII., p. 234.

PEDIATRICS

Conducted by

R. S. ROWLAND, M. D.

The Practical Application of the Newer Knowledge of the Chemistry of Milk.—SOUTHWORTH believes that recent work upon the chemistry of milk bids fair to revolutionize to a marked degree our conception of the problem of artificial feeding. These data may for the present purpose be summed up by saying that the casein in suspension in cow's milk which, as calcium casein, normally holds in combination a definite amount of calcium, is really transformed by the rennet ferment in a weakly acid medium into calcium paracasein or junket clot. By the further addition of acid it is changed into acid paracasein curd. No such clotting or curding by rennet will take place if the milk is made alkaline, but subsequent neutralization of an alkalized milk by a slight excess of acid will restore its susceptibility to rennet action.

The addition o falkalies to milk then, not only forms new chemical compounds with casein, but produces distinct effects upon the process of digestion. A small amount of the alkali simply delays curding, pending the neutralization of the alkali by the acids present in or secreted by the stomach. This delay alone tends to prevent the curding of the milk in large, solid masses, and favors the formation of smaller and more flocculent curds. On the other hand, if the alkalization is sufficient not to be overcome readily, part of the still uncurded milk will probably escape through the pylorus to be digested in the intestine, and so relieve the stomach of part of its work. If the gastric digestion is weak and faulty, this is often an advantage, and it may even be possible to shift the entire burden of digestion to the intestine.

It is evident that agents capable of such radical influences upon the processes of digestion should not be used without careful discrimination. They may be of extreme value in the feeding of infants with weakened gastric digestion. We may employ them to change the character of the curds, or to divide the labor between the stomach and intestine, so as to avoid overtaxing the former organ; but we must keep in mind that the infant's stomach must be developed during infancy, and that it gains strength only when a carefully graded increase of work is demanded of it. Grading the increase of work is indeed the true explanation of the results obtained by the time-honored use of lime-water as a routine measure in modifying milk. By the addition of one ounce of lime-water to every 20 ounces of milk mixture irrespective of the quantity of milk entering into its composition, the casein in the earlier and weaker mixtures is more profoundly affected by the lime-water than in the later ones, in which the milk is progressively increased while the quantity of lime-water does not vary. The inhibiting action of the alkali upon coagulation is thus gradually withdrawn as the normal stomach in its development becomes equal to greater tasks.

The various alkalies in common use do not necessarily act in precisely the same way. Lime-water is distinctly alkaline and but weakly antacid. Sodium bicarbonate is very weakly alkaline, but distinctly antacid. The calcium of lime-water enters up to a certain limit into further direct combination with the casein, and this is probably true of the sodium, magnesium, and potassium of the other alkaline antacids. It is extremely probable that these new combinations vary in their digestibility, and more especially in their solubility. In disturbed conditions of the stomach, accompanied by the formation of abnormal acids, alkaline additions to the milk neutralize these and present sudden and disastrous curdling of the milk in large masses, such as may be formed in the presence of rennet by abundant acid. One of the sources of an undue amount of acid may be the lactic acid or the acid salts present in milk which has just begun to sour. In this stage it is more dangerous for infants than a fully soured or clabbered milk, for in the latter stage the lactic acid has removed the calcium from its union with the casein and made actate of casein, and in this form the rennet cannot change the soft acid curd into those which are tough and leathery. This is the principle which underlies the use of buttermilk and acidified milk in infant feeding.

A similar decalcification of the casein by the citric acid radical of citrate of soda, the consequent prevention of tough rennet curds and the casein digestibility of the subsequent combination of the casein with the hydrochloric acid of the gastric secretion explains the present popularity of citrate of soda, which it is claimed enables larger proportions of milk to be given without digestive disturbance. Thus, with some definite understanding of the action of both alkalies and acids upon milk and their effects upon the digestive process, the way is cleared for their more intelligent use both as a routine measure and in the treatment of infants with enfeebled or disturbed digestion.—*Editorial Archives of Pediatrics*, Feb., 1907, pg. 118.

GENITO-URINARY SURGERY.

Conducted by

W. A. SPITZLEY, M. D.

Ectopia Testis Transversa.—The author reports this very interesting conditon, of which he found only two similar instances in the literature, met with in a patient whom he operated in 1904 at the Cook County Hospital.

The findings were as follows: Both testicles found to occupy the left scrotal pouch, with a common tunica vaginalis; they were of equal size, small, but normal in consistency. The epididymi were fused from the middle third downward to the globus minor. They evidently contained a large amount of fibrous tissue and fat, which formed a mass closely resembling a uterus. From the upper part of this mass were suspended the testicles. Between the upper part of each epididymis and the testicle was a band of connective tissue and serosa, which resembled the broad ligament of the female. The rather free upper part of the epididymis resembled a Fallopian tube. The vasa deferentia were distinct and of large size until the upper part of the inguinal canal was reached; here they were closely bound together, forming one large cord, which was fully 1¼ inches in diameter at the point where it passed into the internal ring. As there was nothing to justify the removal of the testicles, they were replaced in the scrotal pouch and the hernia operation completed without transplanting the cord, which was so large as to make closure of the hernial opening difficult. The hemorrhoids were removed by the clamp and cautery method. Recovery from both operations was complete and satisfactory.

The cause of this abnormal condition is to be found in anomalies of growth which occur in the early foetal life in the genital area. These changes undoubtedly antedate the beginning of the descent of the testicles. Crossed ectopia or transposition of the right testicle, resulted from the left possessing greater energy, thus dragging the right testicle through the left inguinal canal into the left scrotal pouch. The presence of a single tunica vaginalis is easily explained.—A. E. HALSTEAD, *Surgery, Gynecology, and Obstetrics,* Feb., '07.

Extirpation of a Hypernephroma, Weighing Four and a Quarter Pounds, from an Infant Twenty Months of Age; Recovery.—This case is worthy of notice both because of the tremendous size of the tumor and because of the recovery in so young a patient. The transperitoneal method of exposing the growth was employed, the right rectus muscle being split from the costal arch nearly to the pelvis. The rectus opening gave a good view of the mass, which with huge veins coursing over its surface presented a formidable appearance. Perpendicularly on its anterior face lay the ascending colon, lifted along with the posterior layer of peritoneum, behind which the tumor had developed. The other intestines were crowded over to the left. In the peritoneum, constituting the anterior covering of the mass, an opening was made to the right of the colon and the peritoneum with the ascending colon was stripped from the tumor. Bleeding was free during this step, and required pressure with hot gauze to control. Working behind to the right, the kidney was freed, and then by pressure on the outside of the abdomen, the tumor, plus the kidney attached by its upper pole, was delivered through the incision. As this emerged it revolved to the right, exposing the pedicle consisting of renal vessels, etc. An infected gland was disentangled from their midst, and then a catgut ligature applied, and the mass cut away. Recovery was in all respects uneventful.—WILLIAM S. CHEESMAN, *Annals of Surgery,* Jan., '07.

Intraperitoneal Rupture of the Urinary Bladder. With Report of a case Operated Two Hundred and Fifty-four Hours After Accident: Recovery. On Sept. 28, 1904, a man was brought to Cook County Hospital, Chicago, with intraperitoneal rupture of the urinary bladder. Eleven days previous to admission he had received an abdominal injury, since which he had suffered from anuria and a progressive abdominal distension. He was operated two hundred and fifty-four hours after the accident, and was discharged from the hospital on the tenth day well.

The time element is the important and interesting feature in this case. It is unique in medical literature.. BLUMER (*British Med. Journal,* 1903, 1, 789) reported a case operated the sixth day after injury, with recovery, operator Dr. George F. Thompson. Incision in median line four inches long. Abdominal cavity opened. About 2,000 cc. bloody urine found free in peritoneal cavity. On superior surface of the bladder in median line was an opening with ragged edges, which barely admitted the thumb. Opening in bladder sutured by Czerny-Lembert method, using silk. Abdominal cavity flushed with normal salt solution. Peritoneum and abdominal wall closed by separate layer method. Bladder was drained for five days by catheter through urethra. The patient made an uneventful recovery.

It is noteworthy in this case that the patient performed his work as a laborer an entire day after the accident, and was not compelled to take to bed until the second day was well advanced. The symptoms of shock were entirely absent, it being probable that the patient had to be taken home after the injury more on account of intoxication than on account of the injury itself.

Yet, it is well known that serious injury to persons under the influence of alcohol often lacks just this element of shock, which is so important in the diagnosis of internal injuries. So, too, is rupture of the urinary bladder a relatively common occurrence in intoxicated persons, owing to the distension of the organ and to the dangers of trauma in this condition.—EDWARD QUICK, *Annals of Surgery,* Jan., '07.

RADIOGRAPHY AND ACTINOTHERAPY

Conducted by

H. R. VARNEY, M. D.

The Present Status of the Roentgen Ray.—SYDNEY LANG, in a very exhaustive paper, discusses the present status of the Roentgen Ray; its great aid in diagnosis of medical and surgical conditions, and its indications and limitations in therapy. He states that a new era for the ray has dawned; instead of a mysterious unknown it has become a rational aid in therapy. Experience and study are necessary to achieve a perfect technic in its application. A skiagraph is worthless and even dangerous unless the operator is able to correctly interpret it. He therefore looks upon the report of a skilled radiographer with as much importance as that of a bacteriologist or pathologist. The radiographer can best interpret the radiograph, because he best knows the conditions surrounding the production of the radiograph, such as the position of the patient, the light, the method of development, etc.

He considers the greatest drawback in the therapeutic application of the ray, to be the lack of a universal standard of odsage. While we have several fairly reliable methods of measurement, the introduction of X-ray filters, such as aluminum and wet sole-leather, will screen out the soft rays which so readily burn the skin, and allow the stronger rays to penetrate the deeper structures.

The physiological action of the ray he considers analagous to sunlight; small doses, stimulating, causing pigmentation and erythema; while larger doses overstimulate and produce atrophy and degeneration.

The most important action is that it causes a destruction of the diseased cell, long before the healthy cells are affected; therefore he considers that the x-ray may be applied therapeutically, as rationally as for instance, the iodide of potassium, because both must be given in small and increasing doses. He sums up as follows: It is neither a cure-all, nor a specific, yet it is deserving of a conspicuous place among our therapeutic agents.

It is to be used only as an adjunct to other means of treatment, or as a last resort after other means have failed.

It should be used first hand in three conditions, viz: leukemia, lupus-vulgaris (when too extensive for excision); and skin-cancer. In chronic eczema, acne, psoriasis, psychosis, keloid, and lymphatic enlargement, he considers it a last resort.

After an extensive tabulation of the various diagnostic applications of the ray, in medicine and surgery, he concludes with the summary of the importance of protective measures for both the patient and the operator. During treatment, he advocates suitable protection for the entire body of the patient. Burning of the hands of the operator should now never occur, for it is no longer necessary to expose the hand in testing the tube.—*The Lancet-Clinic,* Jan., 1907.

Radiotherapy and Radiodermatitis.—LEOPOLD FREUND, one of the oldest and most experienced radiologists, was asked the two following questions:

1st. Are the dangers of radiotherapy such that harm caused by it overbalances the good?

2nd. What positive, favorable results can we expect as a result of our experience?

The first question he answers emphatically in the negative; with a rational dose of the ray, accurately measured, severe burns now rarely occur, only in cases of unusually susceptible skin, does severe reaction take place.

The second question is answered by reference to the excellent results obtained in the treatment of mycosis fungoids, rodent ulcer, Paget's disease, and epithelioma. He refers also to the peculiar, useful property of the ray which causes epilation; and its advantages in the treatment of ring-worm and favus.

He considers that lupus can be permanently cured by the ray and that it is especially useful in lupus involving mucous membrane when the Finsen cannot be employed.

He also calls attention to the results obtained in leukemia, neuralgia, Addison's disease, and Grave's disease, rhinoscleroma, and trachoma.—*Wien. Med. Presse,* 1906-9.

The Use of the X-Rays in Unresolved Pneumonia.—EDSOLL in a recent discussion of the accelerating effect of the x-rays on metabolism in leucorrhœa has been led to apply the ray in unresolved pneumonia, and concludes that the x-rays play an important part in causing improvement and recommends further trial.—*American Journal of Medical Science,* February, 1907.